Published
e 10th of each month by
PRACTICAL PUBLICATIONS
Incorporated
342 N. Meridian St.
dianapolis 4, Ind.
elephone Riley 6771

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

Contents

Random Comment on the Industrial Scene	4
The Hudson Finish	14
Finishing Decorative Wall Panels	26
Masking for Spraying	40
Cleaning and Painting Used Steel Drums	59
Finishing Hand Decorated Furniture	72
Furniture Style Review	78
Letters from Readers	84
Questions and Answers	88
Materials; Supplies; Equipment	92
Editorial	112
Booklets; Circulars; Catalogs	122
"Classified Advertising" Section	125
Advertisers Index	128

Cleaning and Painting Parts for Ilg Fans	36
Medical Attention for Solvent Illness	54
Drebsky and Chipkin Join Hilo	54
Pinholing on Mahogany	76
McKinley Goes to Hooker-Detrex	76
Haworth Joins Wilkinson Equipment & Supply Co.	76
Cleanliness in Finishing	90
Selecting Production Spray Guns	110
Paint Research Associates	111
Training Course to Explain Industrial Instruments	119
Tru-Shot for Blast Cleaning	120
New Chemical Plant	121
Wilkinson Distributes Johnson's Rubbing Lubrication	123
Landstrom, Sales Manager for Sundstrand Sanders	124
DuPont Ind. Sales Manager at San Francisco	124
Warnes Directs Sales Promotion for Turco Products	125

Acceptance under Section 34.64, P. L. & R., authorized.

AUGUST, 1949
Vol. XXV, No. 10

...ished monthly to finishing and paint shop foremen, ...ction superintendents, ...ts, purchasing agents and ...ny executives of metal-...g, woodworking and mis-...ous industrial plants ...production cleaning and ...g are major operations in ...and products manufacture.

...scription Rates Per Year ...and Possessions.....$2.00 ...da and Foreign ...tries .....$4.00 ...subscription solicitors are employed)

...ent.....W. H. Rohr ...President.....E. A. Dosch ...rer.....R. E. Salts

...stern Representative
C. A. LARSON
254 West 31st St.
New York 1, N. Y.
...ne: Longacre 4-4285-6

...Coast Representatives
...ON-REILLY LTD.
...lburton Building,
...Angeles 14, Cal.
...phone: Dunkirk 8-1179
...Building,
...Francisco 4, Calif.
...phone: Douglas 2-4994
...World Life Bldg.,
...tle 4, Wash.
...phone: Seneca 6753

25 TWENTY-FIFTH YEAR OF PUBLICATION

Small Business can ward off the threat of declining sales through the same research methods developed for larger enterprises. This subject was discussed at a recent meeting of the Sales Executives Club in New York. One company more than doubled its volume after the market facts were developed through three successive research programs. Research gave the company the clue to what trade-marks to retain, the changes needed in the product and the most productive advertising mediums to use.

A. W. Lehman, managing director of the Advertising Research Foundations, told the meeting that research men should be called in to build the business and not just to save it from going under.

This makes sense. The time to take remedial steps is before they are necessary. Most companies would do well to remember that advertising, merchandising, packaging and marketing are as important as production.

* * *

Industrial Propaganda is just as necessary to mold public opinion as is National propaganda. This was one of the subjects discussed at the annual conference of the National Industrial Advertisers Association.

Management, with possibly a few exceptions, has failed to presents its story to the public to the fullest extent. "People approve of the products of American industry, but when asked what they think of the companies making these products, their answer is that they distrust management" the Bureau of Advertising reports "Frequently most people are unaware of who controls industry."

"When people get to know the facts about management they are more inclined to trust it," the Bureau asserts. "A study by the New York Telephone Co., showed that the more customers knew about its business the better they felt about it."

The same principle applies to the employees. Let them know what causes so many headaches.

* * *

Prevents Mildew. A chemical which has proved to effectively inhibit mildewing of linens, and which does not require special equipment or handling, is being offered the laundry and linnen supply trade by Monsanto Chemical Co.

It is sodium pentachlorophenate, a water soluble fugicide sold under the trade name of Biolite. A few cents worth of Biolite in the final clear rinse will treat several hundred pounds of linens.

* * *

Plastic Sponges. New revolutionary plastic sponges have been recently made available by the Barco Chemical Products Co., Chicago, Ill. These plastic sponges are resistant to mild acids, alkalies, soaps, washing compounds, etc.; can be boiled or sterilized; are soft like velvet when wet; ring out like a rag; wipe dry like a chamois.

(Continued on page 6)

NOW

MORE THAN EVER

YOU NEED

DOLAN'S

Critical buyers are demanding BETTER finishes

"Unquestionable Quality"

FINISHES

● To convince you that your quality can be improved, we will ship at drum prices, five gallon sample pails of Lacquers, Sealers, Thinners, Stains and Fillers. Apply them yourself and be convinced.

V. J. DOLAN & CO., Inc.

Manufacturers of *"Unquestionable Quality"* INDUSTRIAL FINISHES

1830 N. Laramie Ave. Chicago 39, Ill.

NON-INFLAMMABLE **ELECTRO** NON-INJURIOUS

COLD STRIPPER

FASTEST *in Action* **LOWEST** *in Price*

WRITE FOR TESTING SAMPLE OR ORDER
5-GALLONS AT DRUM PRICE

Allied Finishing Specialties Co.

2641 W. Grand Ave. • Chicago 12, Illinois

PEEL
SPRAY-BOOTHS
CLEAN!

save time and money by eliminating grease, paper, scrape-downs.

get clean booths by peeling off all accumulated overspray just as easy as you peel a banana. Get fire-safety, better illumination, etc.

order 5-gallon Test-Sample ($13.75) today. Money-back if not completely satisfied. Lower price on quantity re-orders.

"LIQUID ENVELOPE"
PEELABLE SPRAY BOOTH COATING

BETTER FINISHES & COATINGS, INC.
268 DOREMUS AVE., NEWARK 5, N. J.
127 E. 7th ST., LOS ANGELES 14, CAL.
IN CANADA: HUGH RUSSEL & SONS, LTD., MONTREAL AND TORONTO

They are white, and remain white; are tough and strong under the roughest usage.

* * *

Toys Are Booming. Due to orders placed by 6000 buyers who attended the American Toy Fair in New York, toy manufacturers report full production schedules. The Fair had some 1200 exhibits. H. D. Clark, secretary of the sponsoring association said, "The showings have set an all-time record for ingenuity and variety of new designs which will give children more fun and play value. Buyers report that prices appear to have been set realistically."

Toys made of rubber, plastic, wood and metal were shown. Many items were newly developed or improved for this year's toy trade.

* * *

New Automobile. Out of the West comes the announcement of a new automobile by Del Mar Motors, Inc., of San Diego, Calif. A production schedule of 600 cars a day is planned. The Del Mar will be powered by a 64-hp. Continental Red-Seal engine and the 5-passenger sedan is expected to sell for $1170 at the plant.

* * *

A Paint Brush Bag made of clear plastic will keep wet paint brushes soft, pliable and usable over a long period of time. These bags, known as Cry-O-Rap have high resistance to the passage of air and other vapors. The plastic material is resistant to most oils and solvents found in standard paints.

* * *

Electrical Safety. A new electronic safety starter that eliminates the danger of fire losses, short circuits and transformer burn-outs in fluorescent

(Continued on page 81)

and 3 laboratories to make it right . . .

Believing that every customer deserves a "made to measure" finish, our three modern laboratories are not held in reserve for "special problems." Instead, they cooperate in formulating ***specific*** finishes for specific products and purposes for **every** manufacturer we supply.

For every manufacturer, we consider ***all*** of his requirements and all of his production factors before supplying a "balanced" finish that is just "right" because it *is* an individual finish.

And there is plenty of experience behind our ***specific*** finishes, too—almost 85 years of it. That is one reason why you pay no premium for this kind of service.

Yes, with the ***right*** finish—you'll finish ***right***. And the Lilly Key is the key to the right finish. So why not put one of our three advantageously located laboratories to work for you today. You'll eliminate a lot of fuss and bother in meeting your daily production and inspection standards.

THE Lilly FINISHES VARNISH COMPANY

Indianapolis, Indiana

Gardner, Mass.

a picture of
44 precision spray guns

To give you the ultimate in fine finishes every detail of the Model 18 is made to watchmaker's accuracy. No detail has been overlooked to make it the finest precision spray gun you can buy.

To make the Model 18 fully versatile, 44 different, interchangeable nozzle set-ups are available for it . . . each designed and manufactured with the same care as lavished on the gun itself.

Each of these 44 nozzle set-ups sprays a particular material or group of materials better than the others.

There are few materials, if any, that cannot be applied with the Model 18 and the right nozzle set-up. The list to the right is only indicative of the many materials that can be sprayed faster, more efficiently and economically.

There is no mystery to nozzle set-ups, even if many of them look very much alike. Each set-up varies from the others in only two ways:

1. In the size of orifice in the material nozzle.
2. In the sizes and arrangements of orifices in the air nozzle.

By varying these factors, nozzles are made to efficiently spray almost any material that is sprayable. To get the correct nozzle set-up for your particular use, just specify the material you intend to spray. We will do the rest.

If, in the future, you change materials or wish to use the gun for another job, all you have to do is buy a second nozzle set-up for that specific material. It will be interchangeable with the others.

"As pace-setters, we are pledged to find ways to make still better spray finishing equipment . . . and to make it first!"

J. E. Roche
President

Ultimate
Arriving at the ultimate in results is largely dependent upon careful planning at the outset. It is a standard from which we never deviate. For this reason we have won an enviable position as a supplier of protective and decorative coatings as used on all classes of merchandise.
You will find it advantageous to get acquainted with the exemplary work of our Creative Studio . . . to know first hand that we can develop an individual finish especially for your needs. No obligation for our creative service.

No Tampering with Quality

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS

Manufacturers of Protective and Decorative Coatings

The

PRESENT DAY styling of automobiles places an extra responsibility on the finishing room. Some of the long sweeping curves of yesterday's body designs have been retained; others have been reduced to a short radius and in a few cases they have become a mere ridge molding. These molded surfaces, some of which extend nearly the full length of the car, must be well coated, and extreme care must be used in all finishing, sanding, polishing operations as well as in final inspection.

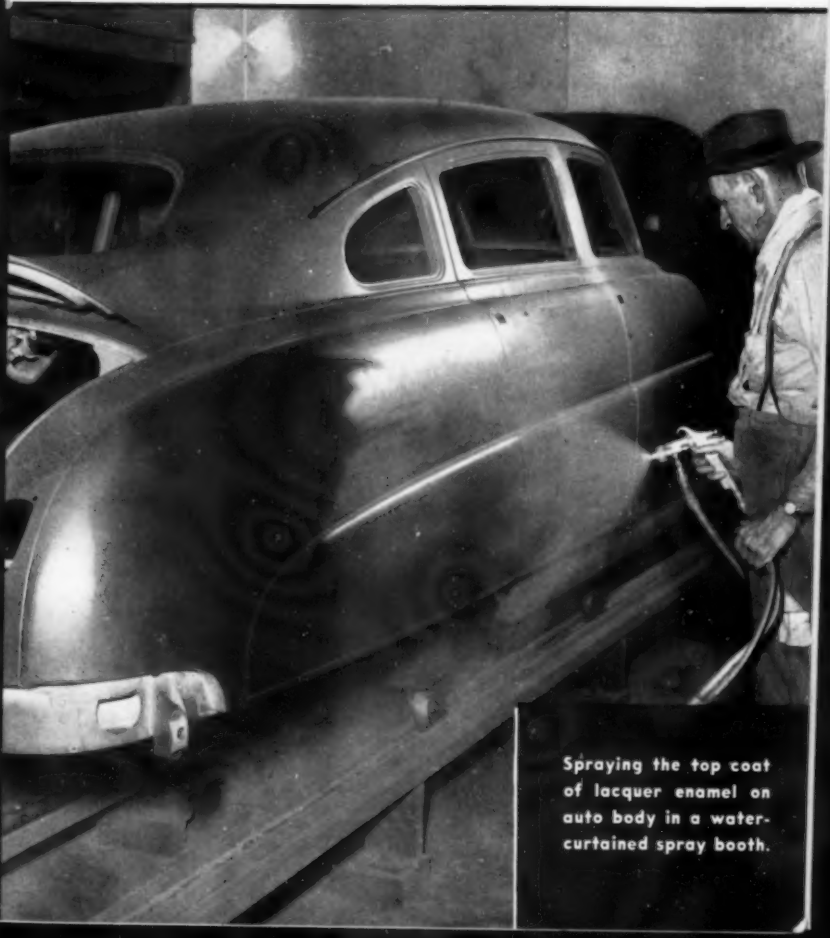
Preparation of Metal Surfaces For the Paint Job

When bodies arrive in the finishing room the first operation is a quick hand brushing of the entire outside with mineral spirits. This softens and dilutes any grease or oil that may be present on the metal and prepares the surface for the metal washer.

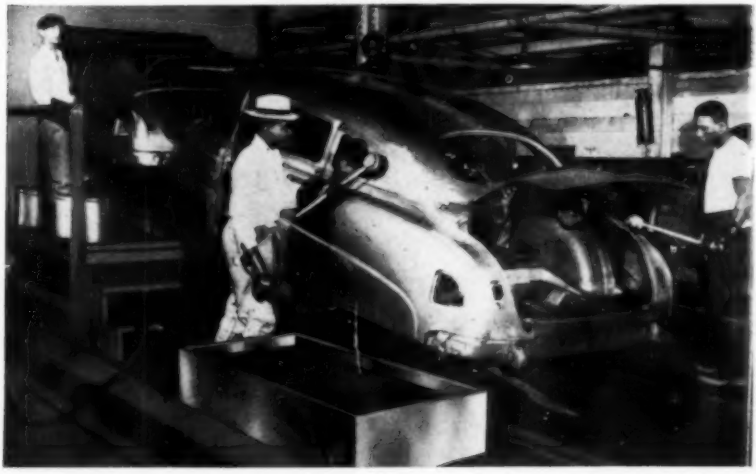
In the first stage of the washer an alkali cleaner, with emulsion added, is sprayed at 140° F.; this is followed in the second stage by the same material, except that the strength of the solution is increased 100%. Next is a hot water rinse at 140° F. In the final stage a phosphoric-chromic solution is sprayed on to lightly etch the metal surface.

As cleaned bodies leave the metal washer, excess moisture is blown off before they enter the dry-off oven where they are thor-

Hudson Finish



Spraying the top coat of lacquer enamel on auto body in a water-curtained spray booth.



Before car bodies enter the mechanical washer they are given an over-all hand brushing with mineral spirits—a substantial aid in the metal cleaning process.

oughly dried for 12-minutes at 260° F. Upon leaving the oven some of the close places are again "blown off" and wiped to make sure that no moisture remains trapped.

Application of Cut Masks; Knife Glazing; Primer

Next, die-cut-to-shape pressure sensitive tape masks are applied over various holes and openings to protect these openings and the surrounding surfaces from sound deadening material which will be sprayed on later.

As bodies move along the conveyor, all soldered areas are knife glazed with a quick-drying material that dries in about ten minutes. Then a coat of black lacquer base primer (13 seconds viscosity at 80° F. No. 4 Ford Cup) is sprayed on the entire inside surface of the car, including trunk area—but not on the cowl as this will be coated later with insulation and sound deadener.

Primer Coat; Baking Sound Deadener

Beginning with the outside finish, a pyroxylin primer (18 seconds viscosity at 80° F. No. 4 Ford cup) is sprayed over the entire outside surface, followed in five minutes by a second coat of the same material. Then the bodies pass over a pit spray booth where an oil primer (16 seconds viscosity at 80° F. No. 4 Ford Cup) is sprayed on the entire under side of the body. Next bodies pass through an indirect gas-fired oven where in the first section a temperature of 250° F. is maintained, and in the second section the heat is 210° F. Baking time is 45 minutes. *(To page 1?)*

Good NEWS about Burnishing

From North, East, West and South comes NEWS that hundreds of metal processors have found Oakite Composition No. 3 to be ideal for burnishing steel, brass, silver and wrought or die-cast aluminum.

Oakite Composition No. 3 gives rich suds in hard or soft water, lubricates smoothly to prevent metal-on-metal scratching, rinses freely leaving no soapy film on work or balls, improves luster quickly at low cost per unit.

FREE Write to Oakite Products, Inc., 32F Thames St., New York 6, N. Y., for special Report 6705 giving complete details on Oakite Composition No. 3. Full information about cleaning and bright-dipping before burnishing and best methods of keeping balls and barrels in good condition. Also, without obligation, ask about Oakite methods for:

Precleaning in tanks . . . in machines . . .
Alkaline cleaning in tanks . . . in machines . . .
Electrocleaning . . . Pickling . . . Rust Prevention . . .
Pre-paint treatment in tanks . . . in machines . . .
Steam-gun cleaning . . . Paint stripping

OAKITE 1909 1949 40th ANNIVERSARY YEAR

OAKITE

REG. U. S. PAT. OFF.

INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

As bodies travel to cool, an insulation and sound deadener compound is sprayed over all the inside floor of the car, including the trunk compartment, and on the underside of the car floor from a point back of the front seat. This is an asphalt-base material with cork added. Next all joints are sealed with a heavy asphalt material applied with a flow gun. The material sets up quickly. A brush is used to flatten out the sealed joints. This not only flattens the material in the joints, but spreads it out as it forces it down into the joints to produce thorough sealing. Inspection follows, and any minor repairs are made on the line.

Wet Sanding Deck; Washing; Drying

Next bodies enter the wet sanding deck. Here water for sanding is supplied from an overhead pipe system. Portable air sanders using No. 280 wet-or-dry sandpaper are used on all flat surfaces. Curved surfaces, reveals, etc., are hand sanded with No. 320 wet-or-dry sandpaper. Bodies then pass under a needle-point shower where the sanded surfaces are thoroughly washed to remove all grit. Then they are dried in an oven for 15 minutes at 180° F. After cooling for about ten minutes, bodies are given a ground coat of dark red primer ground coat, 15-seconds viscosity at 80° F. No. 4 Ford cup. This primer coat is allowed to air dry for ten minutes before any top coat applications begin.

Final Color Coats; Baking; Wet Sanding; Washing

Up to this point all bodies have received identical operations and foundation coats. Now color separation takes place. Production control specifies the number of various colors required. These colors are

Close-up view on the wet sanding deck. Curved surfaces and moldings are hand sanded.

for PROPER METAL PREPARATION BEFORE PAINTING—

Choose PREP PRODUCTS!

Prep-n-Cote

A PHOSPHATE COATING PRODUCT FOR MECHANICAL CLEANING SYSTEMS

Complete information contained in Prep-n-Cote Bulletin 48-91.

Metalprep

WIPE-OFF TYPE; DIP TYPE; AND RUST REMOVING GRADE—ALL AVAILABLE FOR STEEL

Complete information contained in Metalprep Bulletins 45-34 & 48-62.

Galvaprep

FOR GALVANIZED IRON, GALVANNEAL AND OTHER ZINC-COATED SURFACES

Complete information contained in Galvaprep Bulletin 48-89.

Alumiprep

FOR ALUMINUM ALLOY SURFACES—WIPE-OFF AND DIP GRADES

Complete information contained in Alumiprep Bulletin 48-60.

NEILSON CHEMICAL COMPANY

2682 Tecumseh Rd. Windsor, Ont. | 6562 BENSON ST., DETROIT 7, MICH. | 3411 Union Pacific Ave. Los Angeles 23, Calif.

indicated by numbered tags which are hung on each car body. In the first spray booth all door jambs are sprayed with a lacquer, the color of which is specified by the numbered tag. Next, bodies pass through the inspection line where any defects are marked and minor repairs are made.

In the second spray booth a coat of pigmented lacquer of the required color is sprayed over the entire body. This is force dried for ten minutes at 180° F. Bodies travel about ten minutes during which time they are thoroughly tack ragged. Then the door jambs are given a second spray coat of pigmented lacquer; also the under side of the trunk lid, around all window openings, edges, reveals, etc. This is really a reinforcement coat for those surfaces that will receive severe wear and those hard-to-coat areas.

Bodies now pass through two long water-curtain spray booths where one double coat of pigmented lacquer is applied in each booth, making a total of three double wet top coats. About five minutes elapse between coats and after the last coat, before the finish is force dried for 30-minutes at 210° F. Depending upon the color, top coat lacquers of 15% to 20% solids are used at viscosities of 19 and 20-seconds, at 80° F. No. 4 Ford cup.

Bodies cool for about ten minutes as they travel to another wet sanding deck. Here they are sanded with No. 360 wet-or-dry sandpaper; then they are rinsed and "blown off." They dry as they travel to the polish lines.

Polishing compound is applied to the bodies over rather small areas

Spraying sound deadener and insulation on front floor to exclude heat and road noise. Notice the sealed joints in rear floor.

Polishing a treated body with sheep's wool wheel to give the surface a smooth luster.

by several polishers. Each operator has a definite area to polish; he uses a power driven sheep's wool wheel for this work. We have found that this method of polishing produces a better over-all job than to have two or maybe three operators attempt to polish the entire body. With the small area method, more care and thoroughness can be given by each polisher, and there is always an overlapping of areas which virtually gives these surfaces double polishing.

As bodies leave the polishing line they are given a final inspection. A feature of this inspection line is a 4-ft. wide white strip painted on the floor on each side to reflect the rays from a battery of powerful fluorescent lights on the lower and middle sections of the side of the car body. The direct rays from the fluorescent lights overlap the reflected rays to aid inspectors in detecting any flaws in the finish. Any rejects are sent to the repair line, while acceptable bodies continue to the assembly lines.

Paint Circulating Lines; Water Curtain Booths

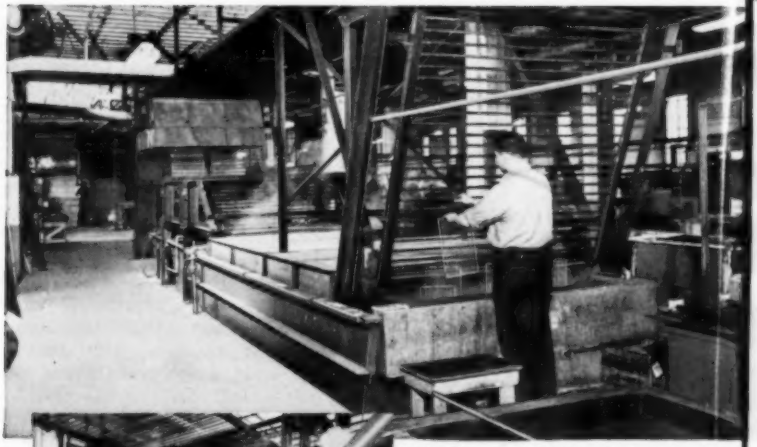
There are two complete central paint-circulating systems. The one for primer and ground coats has two 150-gallon tanks. The main supply room contains twelve 375-gallon supply tanks and four mixing tanks for lacquer color coats. Lacquer is mixed in the four tanks, then piped into the supply tanks from which it is circulated to the various spray booths. All spray booths are the water-curtain type.

A single floor type conveyor carries bodies through the metal washer and dry-off oven, from which they are transferred to double floor-type conveyors on which identical operations are performed.

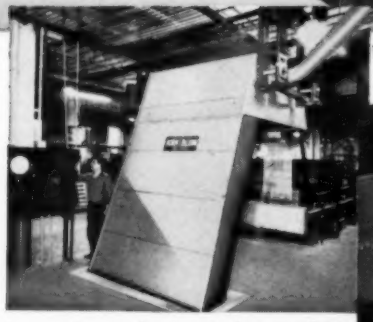
The inspection line for finished bodies. Notice the strip of white floor which reflects light from powerful fluorescent lights overhead to illuminate lower part of body.

KIRK and BLUM

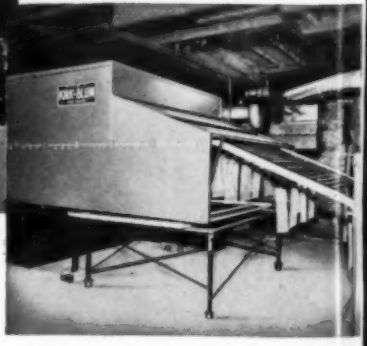
CLEANS....DRIES...



1. Shelves are loaded, start through cleaning operations . . .



2 . . . leave cleaning tanks, go down through drying tunnel . . .



3. To lacquer dip below, drain and then . . .

FINISHING SYSTEM

LACQUERS....BAKES

...360 to 700 Wire Shelves Per Hour at the Bauer Brothers Co., Springfield, Ohio

Producing a clear lacquer finish that stands rigid acid and abrasive tests, the Kirk & Blum Finishing System shown in these photographs carries wire refrigerator shelves through six operations from loading to packing for shipment. Two to four men operate the system which handles 360 to 700 shelves per hour, depending on size.

The operations are: 15-minute soak wash, cold rinse, hot rinse, drying, lacquer dip and 15 minute bake at 250°. One man loads, while two men unload and pack in cartons. Cleaning operations are on the first floor of the plant, lacquering and baking operations in the basement directly underneath. Fume control for removal of fumes and products of combustion is a part of the system.

This system is an example of the way Kirk & Blum Engineers design, fabricate and install systems to exactly meet requirements in plants large and small across the nation. Users are assured an efficiently operating system from *one* responsible manufacturer, ready to operate.

Through baking oven and back up to unloading station.

Kirk & Blum has more than 40 years of experience in the drying and baking field at your service. Write for catalog, "Industrial Ovens."

KIRK AND BLUM
INDUSTRIAL OVENS

The Kirk & Blum Mfg. Co.
2831 Spring Grove Ave., Cincinnati 25, O.

Finishing Decorative

By FRED M. BURT

Paint mixing and viscosity checking, paint heaters, recirculating paint lines, pressure regulation, automatic spraying equipment, 3-zone oven baking and conveyors—all are among the modern facilities included in the setup for finishing these fine decorative wall panels.

IN THE PLANT of Coralte , Inc., Los Angeles, Calif., thr types of plastic-finished decor - tive wall panels are produced. The r trade names are Coralite, Hand i-tyle and Coralether. They are all made from Masonite ⅛-in. thick. Coralite and Handityle panels a e available in widths of 4-ft. and lengths of 4, 5, 6 and 8-ft. Colors are white, ivory, buttercup yellow, deep yellow, peach, turquoise blue, sky blue, green, deep green, Persian brown, terra cotta, dubonnet, Chinese red, and French grey.

Sheets of Masonite for the Coralether finish (in one size, 4x8-ft.) are received from the manufactur-

As a finish-coated and baked Coralite panel comes off the cooling conveyor, inspector Everett Stevens gives it careful examination. The finish must be of top quality.

Wall Panels

HANDITYLE

CORALITE

CORALETHER

er with the design already die-embossed. The finishing process imparts a luxurious leather-like appearance in attractive colors such as Spanish ivory, forest green, cocoa brown, dubonnet red, and chartreuse.

On panels that are to be striped to give a tile effect, scoring lines are made with Carborundum scoring wheels before any finishing operations begin.

Outline of Finishing Operations on Panels

In order to avoid repetition in describing the successive operations on the finishing lines, the following is the general operational sequence:

For the standard "Handityle" wall panels:

1) Application, baking and cooling of white primer coat.

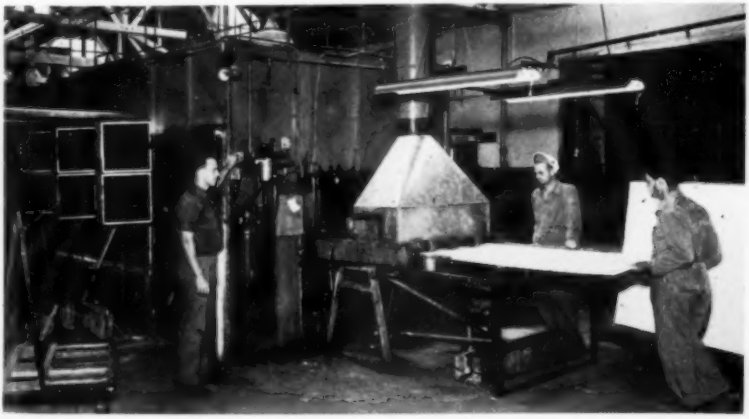
2) Sanding, cleaning.

3) Application, baking (striping when required) and cooling, followed by final inspection.

For deluxe "Coralite" wall panels the schedule is as follows:

1) Primer
2) Sanding
3) White enamel
4) Sanding
5) Color enamel, with striping when required.

(To page 28)



Plant superintendent Ken Burrell stands in front of door of spray booth. At right, men are feeding panels into the spraying-baking conveyor combination.

The final enamel coats are synthetic-resin baking enamels that are tough, hard, mar-proof and highly resistant to water and alcohol; they produce a high-gloss finish as required for wall panels used in bathrooms, kitchens and a wide variety of other interiors.

For "Coralether" embossed Spanish-leather type wall panels, the following schedule is used:

1) Application of two coats of color base enamel; bake and cool.

2) Manual brush application of oil glaze, followed by wiping with soft cloths; this coat darkens the depressions and highlights the high places of the base coat and brings out the grain effect; it is allowed to dry at room temperature.

3) Application of a clear lacquer which is resistant to water and alcohol; then bake, cool and final inspection.

Note: The prime coating operation is skipped in this description, as it is a duplicate of the next enamel application, except for difference of coating material.

Sanding Machine Operations on Panels

The Masonite panels are carried to sanding machines on special dollies with bases of two sizes, 4x4-ft and 4x8-ft. In the first wet sanding machine two sets of 15 sanding pads oscillate crosswise as the prime-coated Masonite panels are carried forward under them at a speed of 20-ft. per minute.

Leaving the first sanding, the panels are immediately run through a second sanding machine which has No. 280 grit abrasive paper in the first set of pads and No. 320 grit in the second set. In the first sander No. 240 is used. *(To page 30)*

Leaving the spray booth, all coated panels are carried by a slat conveyor which is automatically adjustable for discharge of panels on four levels of the bake oven conveyor.

UNITED'S *NEW* VELVA-TŌN

DRIES 40% *FASTER!*

Air-Dry SYNTHETIC ENAMEL

Developed by patient experimentation, and tested under exacting conditions, VELVA-TON is the answer to your problems with a smooth, high-gloss coating that means a better finish in less time.

Tell us your requirements—let United's experts compound the formula that fits them, and send a generous working sample.

UNITED LACQUER MFG. CORP.

LACQUERS
SYNTHETICS
THINNERS
SPECIAL COATINGS
METALLIZED FINISHES

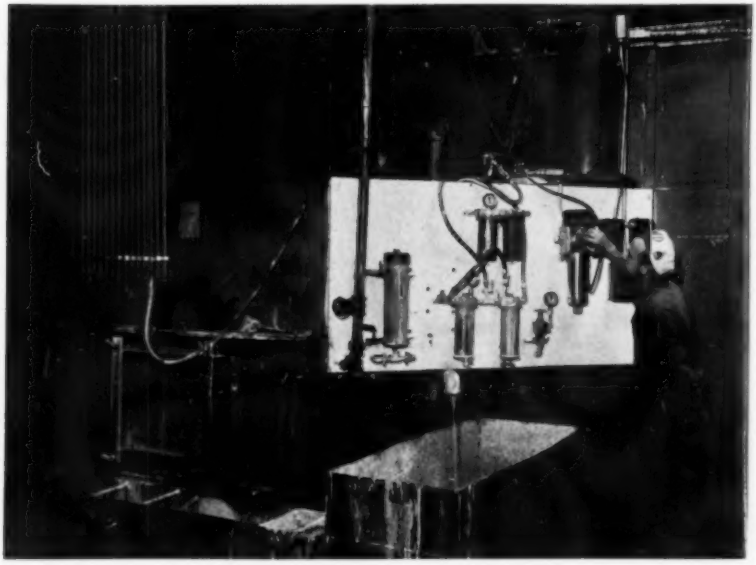
UNITED
LACQUER MFG. CORP.
LINDEN, N. J. EVERETT, MASS.

From the second sanding machine panels move forward on a long flat-bed conveyor that carries them through a gas-fired oven which is kept at a heat of about 150° F. At the end of this flat-bed conveyor the sanded and dried panels are again loaded on dollies and moved up to the loading end of the spray-painting, baking conveyor.

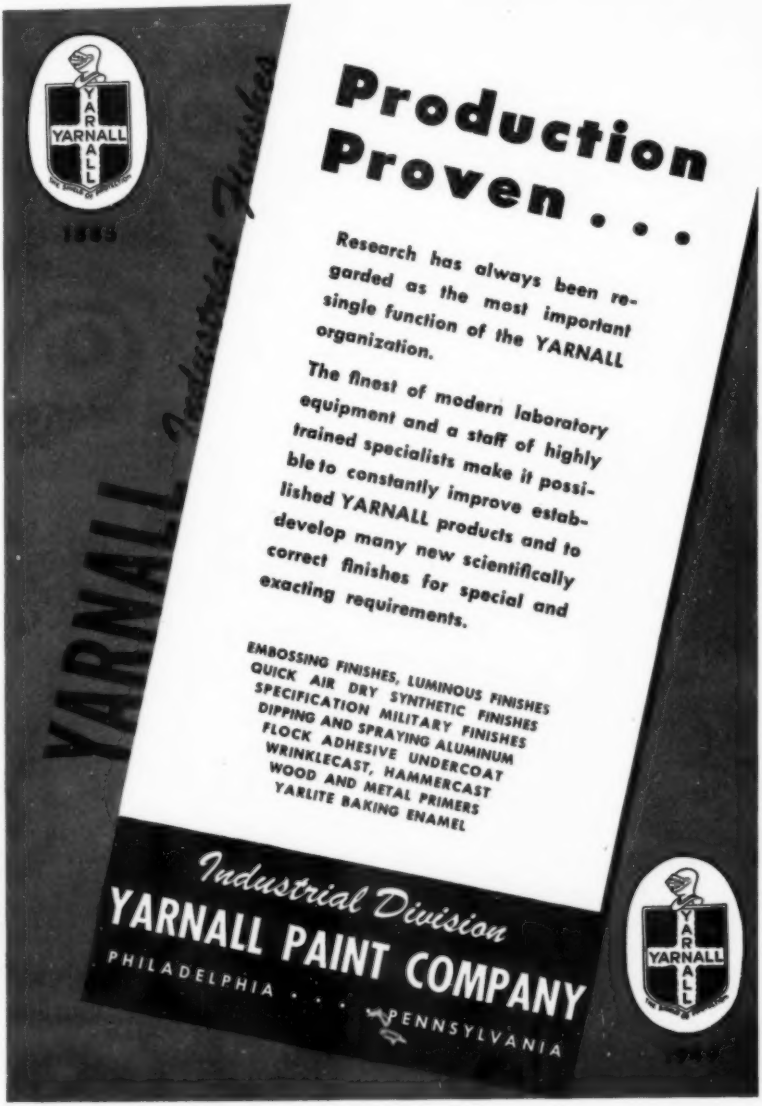
In charging this line for each application of primer or enamel, the panels are placed on a feeding table where they are picked up by power-driven rollers and moved under revolving cylindrical brushes. The first brushes are wire and the follow-up brushes are fiber. These brushes operate under a hood; and exhaust suction draws off any fine particles of material that may be loosened by the brushes.

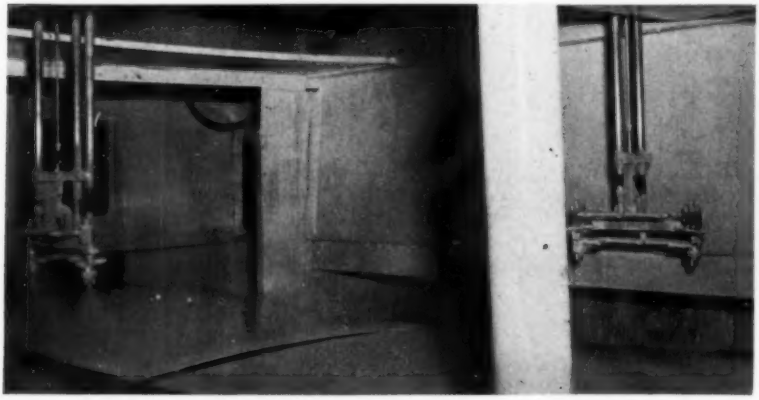
Rotary Brushing; Spray Painting

The power-brushed prime-coated panels are carried into a spray booth wherein they advance under two automatic spray units which shuttle back and forth across them. The first unit blows clean compressed air down on the panels to remove any tiny loose particles that may be still clinging to the surfaces. The second spray unit applies the coating. *(To page 32)*



At left are vertical pipelines from the paint room, to supply different enamel colors to automatic spray guns. Below are clean-out tanks for water wash spray booth. At right the operator is checking atomizing spray pressure. Above operator is the viscosity control paint heater through which all enamel is routed to spray guns.


YARNALL
1865
YARNALL Industrial Finishes
Production Proven . . .
Research has always been regarded as the most important single function of the YARNALL organization.
The finest of modern laboratory equipment and a staff of highly trained specialists make it possible to constantly improve established YARNALL products and to develop many new scientifically correct finishes for special and exacting requirements.
EMBOSSING FINISHES, LUMINOUS FINISHES
QUICK AIR DRY SYNTHETIC FINISHES
SPECIFICATION MILITARY FINISHES
DIPPING AND SPRAYING ALUMINUM
FLOCK ADHESIVE UNDERCOAT
WRINKLECAST, HAMMERCAST
WOOD AND METAL PRIMERS
YARLITE BAKING ENAMEL
Industrial Division
YARNALL PAINT COMPANY
PHILADELPHIA . . . PENNSYLVANIA
YARNALL



At left is a 2-gun automatic spray head applying white enamel to wall panels. At right, in front of entrance to water wash spray booth, the 2-gun spray head is blowing compressed air on panel surfaces to clean them before they receive a spray coat at left.

Leaving the spray booth, the panels are transferred from the cable conveyor to a slat conveyor which is supported on a boom-like structure that is hinged at the loading end. The other end automatically adjusts itself successively to feed the four levels of the roller conveyors in the baking oven. For instance, when a panel is fed to the top level, as soon as it passes and ceases breaking a beam of light (directed upwards below the conveyor level at the entrance to the oven) electronic actuation causes the feeding conveyor to drop to the next lower level, to move another panel forward on that series of rollers. From the lowest level the movement is back again to the top. All of the conveyors involved in the various finishing operations have variable-speed drives.

The oven in which the final finish is baked is 100-ft. long and divided into three zones. The first zone ranges from room temperature to 150° F.; it has no heater; it receives heat from zone No. 2 which has a gas-fired heater, with heat ranging from 150° to 250° F. The third zone (250° to 360° F.) uses direct products of combustion from the heating system. The foregoing temperatures are for enamel and color coats; for primer, the top heat is cut back to 250° F. Taylor recorder-controllers maintain the desired oven temperatures. In each oven zone the recirculation arrangement is such that air is blown across the faces of the panels from one set of ducts to another.

At the discharge end of the oven four conveyors are synchronized to a speed of 17-ft. per minute—but the speeds are variable, of course, if different speeds are desired to coincide with speed changes made farther back. Three of the convey-

"Gets better sanding job and saves $4.50 per day"

with this
Sundstrand
PORTABLE
OPPOSED-PAD
Sander

That's a typical savings report from a user about his Sundstrand Sander over hand sanding. This manufacturer uses Sundstrand Sanders for water sanding automobile bodies after the prime coat has been applied. Twelve sanders on the production line are in use 8 hours per day, 5 days per week. The savings of the 12 sanders over hand sanding is $54.00 per day — $4.50 per machine.

Investigate the possibility of savings like this in your plant. If you have sanding operations in wood, metal or plastics, write for additional information. Ask for bulletin IF-44.

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

ors slant down to carry panels from the four oven levels to the unloading conveyor. From the unloading conveyor panels are transferred to a parallel cable conveyor on which the panels are striped white with flow guns fed from a 10-gallon pressure tank; or they are carried on through a long cooling chamber into which cool air is blown. At the end of this unit, the panels are removed for final inspection—or returned to the next sanding operation or coating operation, if the panels are Coralether.

For application of the oil glaze, Coralether panels are placed on a table where two men brush on the glaze while two others immediately follow with the wiping operation, using soft cloths.

In the paint supply and mixing rooms every drum of coating material is checked with a No. 3 Zahn cup for the desired viscosity. When the material is right, the drum is hooked up to the proper pipe line extending to the spray booth. There are 14 of these lines. A pump delivers the liquid to the pressure regulators on the panel at the side of the spray booth. Pressure on material in supply lines to spray guns is kept at 20-lbs. per square inch, with the atomizing pressure maintained at 50-psi. This pressure (50-psi.) is about 20-psi. less than what was formerly used; it can be used because of the viscosity control paint heater on the line. As a result, there is less overspray and less wastage of paint materials.

Regulated pressure from the pump feeds enamel through the insulated inner tank of the heater which contains a buffer liquid, elec-

Two men in foreground are brushing oil glaze on a Coralether panel, while the other two men are wiping it with soft cloths to bring out the attractive grained effect.

A MARYLAND LAW STATES:

"It shall be unlawful for any person to manufacture, sell or offer to sell, any toy or plaything, including children's furniture, decorated or covered with paint or any other material containing lead or other substance of a poisonous nature, from contact with which children may be injuriously affected, unless such article shall contain a label affixed thereto stating in clear and unambiguous language that the said paint, or other material contains lead or other substance of a poisonous nature."

WHY TAKE CHANCES with sales and consumer acceptance of your product! Play Safe. Use lead-free finishes.

HILO Lead Free Enamels

(So guaranteed on the label)

The use of such HILO finish makes a finish-label unnecessary for sale of your product in Maryland and gives you the right to claim your products are finished with paints which contain no lead or other substance of a poisonous nature.

Send us color sample, application method, baking schedule and oven type—we will recommend the Hilo Lead Free Enamel to meet your purpose. If you prefer, order Twenty Gallons on the basis of "satisfaction to you or payment refunded."

HILO

HILO VARNISH CORPORATION

42-60 Stewart Avenue, Brooklyn 6, N. Y.

2420 Washburne Ave., Chicago 8, Ill. • Park Sq. Bldg. Boston 16, Mass.

Jim Scott, paint mixer, checks viscosity of drum of enamel with No. 3 Zahn cup; close by is a drum of enamel in use, with Lincoln pump supplying it to spray operations.

trically heated. Use of the buffer liquid assures quick starting heat. The pre-set heat of 110° F. for all enamel circulated through the heater, is maintained by a pressure-actuated Mercury switch control on a vacuumstet. These paint heaters are adaptable to any desired gallonage at any heat of paint to 200° F. All enamel unused at the spray guns is recirculated through the return hose for re-heating.

Use of the paint heater has increased paint coverage from 160-sq. ft. to 230-sq. ft. per gallon of unmixed enamel. The quantity of thinner required has been substantially reduced. Further saving of enamel may be effected later by raising the temperature to about 140° F. and using an enamel that is especially formulated to be used at this temperature.

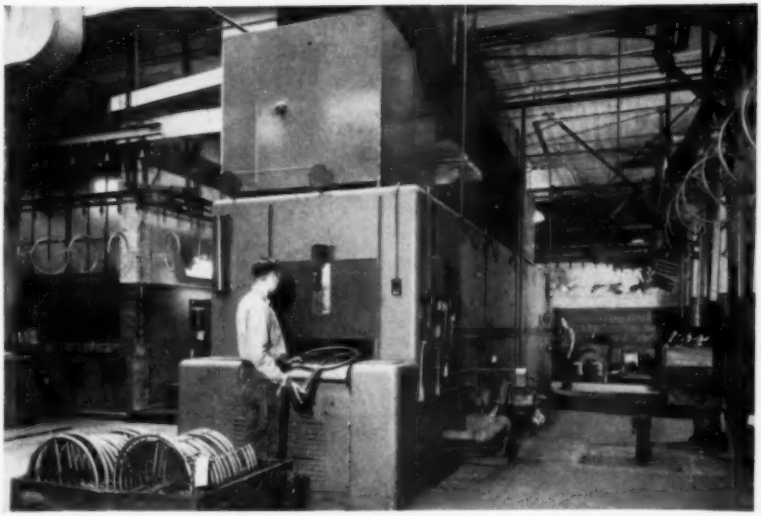
Cleaning and Painting Parts for Ilg Fans

AN IMPROVED conveyorized set-up for cleaning, painting and assembling new cooling fans is in operation at the Ilg Electric Ventilating Co. plant in Chicago, Ill.

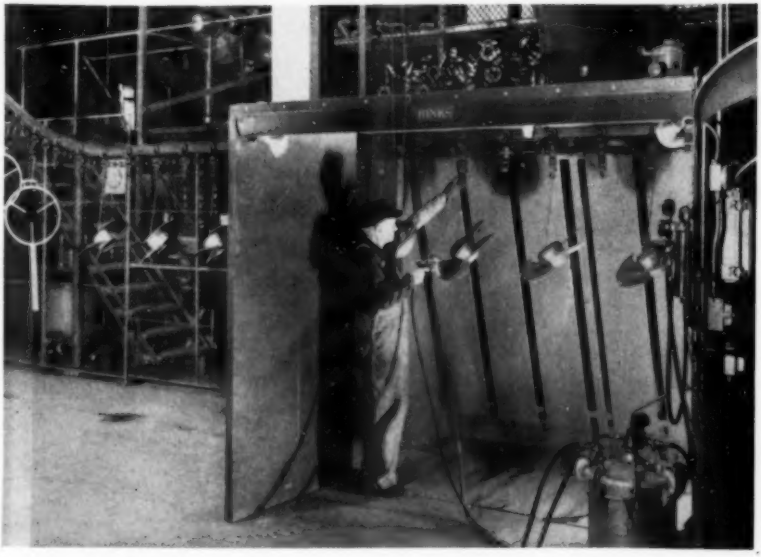
The frame for each Ilgrollaire and Ilgdualaire is cleaned of grease and shop dirt as it passes through an enclosed metal-washing and surface-preparation machine. Metal frames are placed in the preparation chamber at one end and travel through on a flat-bed conveyor to the other end. In the process they are subjected to blasts of a hot cleaning solution from above and below.

Next the parts pass through a phosphorizing solution which forms a protective coating (protection against rust) on the metal and gives it an excellent adhesive surface in preparation for painting. Blasts of hot air dry the treated parts and the machine discharges them into the hands of a workman, as shown in upper photograph on the opposite page.

All parts to be painted are hung with hooks and hangers to an overhead chain conveyor which carries them through a spray painting booth, see lower photograph. Length of the overhead conveyor is such that the painted parts air-dry as they move along after being painted. Then they are transferred to individual trays which move along on roller conveyors at work bench height where the complete fans are assembled.



Frames for ILG cooling fans are cleaned and given a phosphate coating in this machine.



Spray painting fan wheels as they move by overhead chain conveyor through spray booth.

TOO LATE?

Get the jump on competition. Sure thing. But don't wait. You may be too late. Ask yourself . . . can I boost our product saleability with a fresh color approach? . . . a brighter color? . . . a more durable finish?

If you think there's room for product finish improvement, ask to have an R-M industrial finishing representative call on you.

RINSHED • MASON COMPANY

5935-71 MILFORD ☆ DETROIT 10, MICH.

R·M

REG. U.S. PAT. OFF.

Manufacturers of Industrial, Automotive and Architectural Paints, Lacquers, Enamels, Varnishes and Undercoats for all special and standard requirements.

MASKING for Spraying

By GEORGE CONRAD

Practical suggestions for masking portions of products to shield them when the other areas are being spray painted.

THE SPRAY METHOD of applying finishing materials has one characteristic which is sometimes objectionable; the gun will spray some of the material where it isn't wanted. A properly adjusted spray gun skillfully used, gives speed, economy and a uniform coating, but when you find it necessary to protect a certain area from the paint spray you must resort to some form of masking.

Probably at some time every finishing department has a masking problem. It may be solved by using a strip or two of tape for a border, a plug for a hole, or a cardboard stencil to cover some specific area. On the other hand, the best solution of the problem may call for a highly complex, form-fitting shield with hinged sections to produce a more or less intricate multi-color design. The final result may be either a functional or decorative finish job.

Since paint is not a good conductor of electricity, the radio and electrical industries often require that certain areas be kept free of paint for grounding purposes. Paint also interferes with close fitting screw threads, gear teeth and other mechanical parts that are held to close tolerances, therefore these parts must be masked or shielded in some way. Likewise, in order to utilize the beauty of combinations of colors, or of different types of finishes, or of painted and plated sections a job may require that one area be protected while the other is being painted.

Elaborate Masks Used on Some Production Jobs

Many expensive and elaborately engineered masking devices are used in the mass-production industries. When the need for such an investment comes, it is usually advisable to have the masks or shields designed and built by those who make it their business. Some of these masks have been illustrated in previous articles in this magazine. Our concern here is more with the simple but efficient methods of masking the occasional piece and some of the less complicated jobs that run into large quantities.

While perhaps it may be true that "anyone can mask up a job after a fashion", there is a right and a wrong way to go about it, and there are a few tricks that help to make the task easier and the results neat and clean. Likewise, almost anyone can build some sort of protective shield for quantity work. A properly designed shield can mean the difference between profit and loss on the job.

Masking Tape and Masking Paper

The use of masking tape and paper for separating parts of the work is familiar to all finishers. It is used on many small jobs as well as on all jobs that are either too simple or too complicated for other methods. It has become the most common means of shielding adjoining areas which are not to be painted at the time.

Besides being obtainable in all widths from ¼ to 3-in. and more, masking tapes have also been developed for a number of special types of work. The standard wet-or-dry tape is used for all ordinary applications, where no after baking of the tape is involved and where the surface on which it is applied is reasonably smooth. If the ordinary standard tape is baked, its adhesive may become tacky and sticky and smear the surface over which it has been applied. Such smears may be cleaned off with naphtha but a better plan is to use heat-resisting tape which will withstand any reasonable oven baking.

"No, Pete, the boss didn't mean that when he ordered us to mask for a spray job."

On some applications it is desirable to have the tape easily removable from the surface, as for example, a light weight object with the paint still wet. The light adhesive qualities of a *low-tack tape* serve this purpose. In the opposite category, an *extra-adhesive tape* will cling to extremely rough surfaces, wood and porous castings.

For large areas the general practice is to cover the main sections with paper or masking paste, using tape only for the borders and to cover projections. Masking paper is available in all widths, with tape already applied to two edges.

Study and Plan Every Masking Job

When planning to mask with tape the job should be carefully studied. One's aim should be to provide not only neat and thorough protection, but also to make removal of the tape as easy as possible afterward. Here a word of caution might be in order: Particular care should be taken in cleaning and preparing the surface to be masked, especially around the area where paint and tape will meet. The reason for this is two-fold: 1) The tape will cling more securely to a clean surface, and 2) Tape will pull off with a clean edge when the paint has good adhesion. It is important, therefore, to avoid any finger marks along the areas to be taped.

Small work to be taped should be positioned at a comfortable height and all working areas should be adequately lighted. Besides a supply of masking paper and tapes of assorted widths, the accessory

tools needed will include safety-razor blades, scissors, a straight-edge, a flexible plastic rule, tweezers and some sort of sharp pick. A handy tool is one of the wood-carving knives with interchangeable blades; these are sold in some hobby shops.

Simple Jobs of Masking and How to Do Them

Perhaps the simplest form of masking is the covering of raised bosses or other machined surfaces. A piece of tape slightly oversize is pressed over the part, outlining the edges; the surplus is then neatly trimmed off with a safety-razor blade. For small depressions, such as counter-bores, dial and gauge glasses, etc., the tape is laid loosely over the area. Then, using a sharp point, the tape is carefully pushed down, first at one side, then at another until it is loosely centered at the bottom of the hole. It is then pressed into the edges and the surplus is cut off with a sharp knife.

When it is necessary to protect the walls of a hole, a piece of masking tape of the proper width is cut just a trifle longer than the circumference of the hole. Using a dowel stick or a paper tube slightly smaller than the hole, wrap the tape around one end of this dowel or tube, with the adhesive side out and the overlapping ends just barely touching. This is carefully inserted into the hole and pressed against the circular wall opposite the overlapped ends of tape. Remove the dowel or tube and carefully roll the tape against the wall of the hole on the outer seam (overlapped end of tape). Now if the tape is pressed into place along the opposite side, the overlapped seam will part and a neat lining will result.

Masking Large Circles or Dials with Paper

On large circles or dials, the center is usually protected with paper; tape is used only for sealing the outer perimeter. If the circle has a definite rim or edge, the paper is laid over it and the edge is traced with the fingernail (that is where no compass is available). Remove the paper and, with a pencil, trace a slightly smaller circle inside the first circle, leaving about a ¼-in. margin. Cut the paper mask to the size of the smaller circle. If several paper masks are needed, place several layers of paper on a board with the traced circle on top. Drive a tack through the center of them and cut them all out at once with a pair of scissors. The papers are now centered on the dials, and held securely in place with masking tape.

The width of the tape used on a curve will be proportionate to its radius. Three inch tape could be used on a circle that is 3 or 4-ft. in diameter, but on one that is only 3 or 4-in. in diameter, ¼-in. tape would be better.

Technique of Using Masking Tape

In pulling tape from the roll, pull it off straight and slowly, being careful to avoid twisting it or letting the adhesive sides become stuck together. If preferred, a piece of tape of sufficient length may be cut off and the roll may be laid aside; but fast skillful maskers work directly from the roll of tape.

(Continued on page 44)

Electro-Spray Assures Dominion TOP QUALITY at a PRICE ADVANTAGE

QUALITY has a loud voice in competitive markets. Especially when it is coupled with a price advantage.

Dominion Electric is a good case in point, showing how you can gain both with the automatic Ransburg Electro-Spray spray painting process.

This company achieved a 50% paint mileage savings with Electro-Spray. Part of this saving was ploughed back by changing to an enamel costing one-third more. Result—vastly improved quality. Yet Dominion still saved 30% on their paint bill! Added to this, still greater price advantage was enjoyed from characteristic economies on labor, booth maintenance, and elimination of rejects.

Perhaps you, too, can get a competitive edge on quality and cost with Electro-Spray. Call Ransburg engineers for a survey of your painting operations.

RANSBURG ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

In applying tape to the rim of a circle, watch only the outer edge, getting it close and neat. Any folds that develop inside can be creased down later.

In all applications of masking tape, the best practice is to proceed a few inches at a time, "tacking" it lightly with a light touch of the fingers here and there. Then if the tape does not follow the line accurately it can be easily lifted and error can be corrected. When the tape is properly positioned it can be firmly pressed into place. The same method is applicable to any area where part of the surface is covered with masking paper, regardless of its shape.

Further Recommendations on Applying Tape

It is in the field of decorative masking that artistry and skill are most valuable. The most utilitarian product emerges with added sales appeal when dressed with sharply defined decorative colors or plating. Even in the mass production industries much of this masking is done with masking tape. Designs range all the way from a few simple lines of smooth enamel showing through a coat of fine wrinkle (as used on some vacuum cleaners) to the elaborate chromium design on supermarket cash registers.

In all work of this kind there must be some visual pattern or guide to follow. It may be pencil lines or dots between which the tape is laid; it may be furnished by gauges, or the design may be embossed in the case. Since, in the majority of these uses, the tape is removed before the finish is cured, it is always desirable to apply tape in such a way that it can be removed quickly and easily. To accomplish this the following suggestions will prove useful:

1) When starting to mask each separate area, leave a small tab of tape loose or unsealed to serve as a starter or grip to take hold of when it is ready to be removed. This tab may extend over an edge if it does not interfere with spraying, or a tab of smaller tape may be doubled and inserted at a convenient seam.

2) The taping on each area should be progressive and continuous whenever possible. By this I mean that each length or width of tape should lift the edge of the following piece as it is removed, and no tape should cross another strip of tape in such a way that the complete removal of either is interfered with.

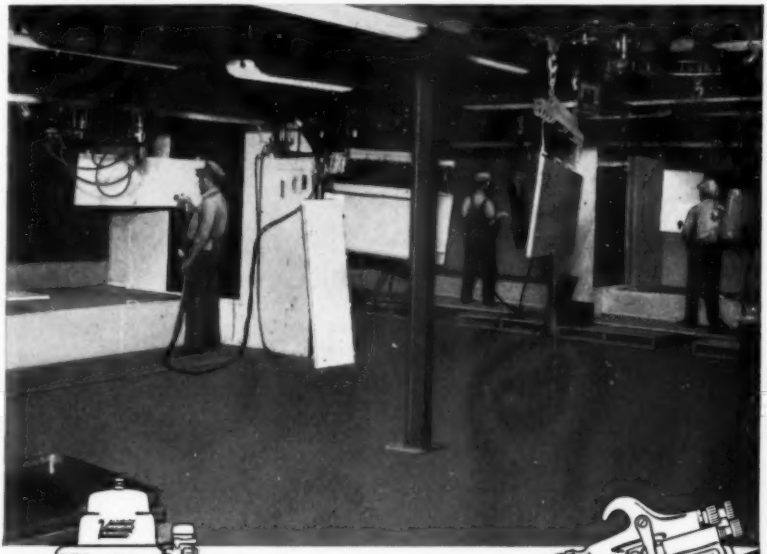
3) The smaller the tape the easier it will come off. This is especially important on small light objects where no firm grip is available for holding the piece while the tape is being pulled free.

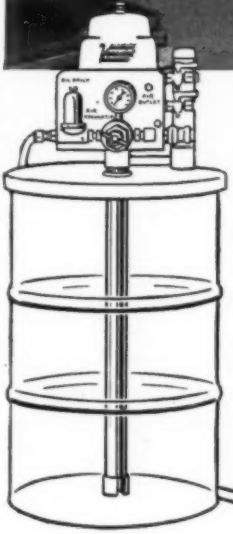
4) Whenever possible, allow the tape to lie naturally, without stress or strain, especially when rounding curves or crossing depressed areas. Lay it on carefully, watching the boundary edge only, and let it attach itself only lightly until you are satisfied that it is perfect. Then it can be pressed down firmly.

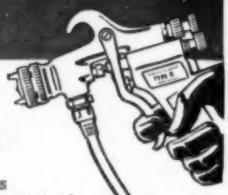
If these instructions are carefully followed, no bridging or creeping should occur, even on highly polished chrome surfaces. Avoid using old tape or some unknown brand of tape; "bargain tape" is seldom a bargain.

Now for removal. The trick is to get the masking tape off without

Faster Finishing at Less Cost







Pump and Spray from the Original Containers

1 Air-operated Versatal Pumps dispense materials directly from original drums . . . serve up to 6 spray heads.

2 Hydraulic pressures deliver materials through as much as 1000 feet of hose or pipe.

3 Versatal eliminates "time-out" for material handling and transferring . . . increases output per man hour.

ALEMITE
Versatal
SPRAY-PUMP EQUIPMENT

STEWART WARNER

For complete details write Alemite, 1805 W. Diversey Pkwy., Chicago 14, Illinois.

accident. Many a fine job has been ruined at this stage by a length of tape falling across a freshly painted section, or by smearing the protected parts with paint, or even by pulling the entire piece off the work table.

Get the tape started by grasping the starting tab with blunt tweezers or long-nose pliers. When an inch or so has been lifted, fold it back upon itself, so that clean adhesive can be grasped by thumb and forefinger. Pull directly back in short jerks or, if it should start to tear, a very slow pull. Of course, both the masked piece and the table or bench on which it rests must be prevented from moving.

When the length of tape being pulled off becomes too long for convenient handling, cut it off close to the work, get a fresh grip and continue. If your grip becomes insecure or tiresome, take time to renew it and you will avoid much grief. Avoid smearing your fingers with paint from the tape, as these smears or smudges may be transferred onto the finished surface. If any smearing does occur, a cloth or swab of cotton twisted on a pointed stick may be moistened with a safe solvent and skillfully used to carefully remove the blemish. Brushes are risky for this purpose; the excess solvent may run from them onto the painted area and spoil it.

Removal of Tape From a Baked Finish

So far, we have discussed removing the tape while the finish is wet, or at least in a fairly soft condition. There still remains those finishes that are baked before the tape is stripped off; also lacquers. In both of these cases it is wise to proceed slowly until you are certain that the masking will come off clean. Sometimes the separation will be ragged when the pull is at right angles, yet the tape will come off clean when the pull is straight back. If this fails, use a straight edge and flexible rule as guides and trace the edge of the masking lightly with a safety razor-blade; this will do the trick.

The removal of masking tape from lacquer-sprayed articles can be made easy by spraying a mist coat of the best quality lacquer thinner around the taped area and allowing a few seconds for the lacquer to soften before pulling off the tape.

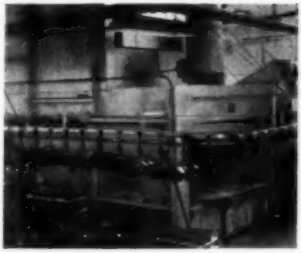
Masking Shields for Fast Repetition Work

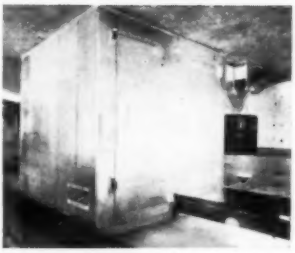
Now we come to that type of work which is of sufficient volume or regularity to justify the designing and making of one or more shields that can be transferred from one piece to another. Aside from mere quantity, there are sometimes other factors that determine whether such masks are the proper answer. For instance, suppose units of a certain part that requires masking come through the spray-room at the rate of only three or four a day. Obviously, to do three or four at a time, one mask or set of masks would probably be sufficient, as there would be plenty of time for cleaning them. The single unit would probably pay for itself.

On the other hand, suppose these same units were made up each year and sent to the spray-room in one

FOR INCREASED PRODUCTION AT LOWER COST

● INDUSTRIAL OVENS
● FINISHING SYSTEMS
IT'S
YOUNG & BERTKE
Ovens and Finishing Systems





YOU CAN BRING your finishing problems to Young & Bertke engineers with complete confidence. Years of practical experience in designing all types and sizes of ovens and finishing systems is your best guarantee that Young & Bertke can build you an oven or finishing system that will help you cut production costs.

There's no obligation on your part when you consult us on your problems. Young & Bertke engineers will be glad to work with you on ovens and finishing systems of any size, from a small experimental oven to the largest conveyor-type oven, spray booth or finishing system.

Let us show you how a modern, up-to-the-minute finishing system can save you money now.

The YOUNG BERTKE Co.

1124 BUCK STREET CINCINNATI, OHIO

lot. In this case several masks might be required in order to allow time for cleaning without interfering with production—and this additional expense might not be justified. On some intricate work, masking with tape can be a costly operation—time-consuming in both application and removal. Whenever any job approaches a regular routine, the alert supervisor will study the possibility of using permanent masks.

A cut-out piece of sheet metal to fit the section to be shielded will sometimes do the job—in a way. However, a well designed mask has many valuable features which make it worth the added cost. It should be rigid enough to retain its shape indefinitely; it should be accurate and perhaps have a well defined "lip" at its "work" edges so it will produce a sharp clean line of separation. It should also be capable of repeated use between cleanings; it should assume its position on the work accurately and surely, hold firm, and come off the work easily and without smearing the worker's fingers.

Planning and Designing Metal Shields

The kind of thickness of material necessary for strength in a mask will depend upon its size and shape. While steel of 20-gauge thickness is fine for a shield of only a few square inches, if it were used alone for one a foot square it would soon become bent and fail in its purpose. For the larger sizes, sheet metal as thick as ⅛-in. or more may be required to give the needed rigidity. When weight becomes a factor, aluminum may be used.

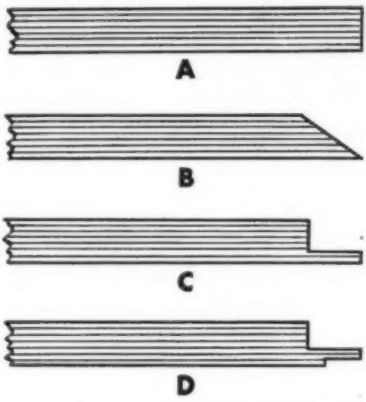


Fig. 1—Enlarged cross-section views of four types of edges of metal masks which protect certain areas from paint spray. A—right-angle shoulder; B—beveled shoulder; C—projecting thin lip; and D—the under-cut projecting lip.

Since many shops lack the facilities for cutting complicated patterns from heavy gauge metal, and since large masks that are cut from light metal require reinforcing to make them serviceable, it is generally more safe and less costly to have metal shields made in a regular metal-working shop where they have equipment for cutting, welding, and forming accurately and without warping the material. Better still, order the masks from a concern that specializes in designing and making form-fitting masks. (Name and address on request).

Some masks may be required to serve for only one or two sprayings, after which there will be ample time for cleaning them. Most of them, however, are expected to produce clean lines after repeated

When thinking of Names, Remember . . .

SPRUANCE has meant QUALITY for 43 years.

SPRUANCE materials assure perfect control, from formulae to finished products.

SPRUANCE products provide beauty and protection.

SPRUANCE uniformity and dependability are acknowledged throughout the trade.

SPRUANCE is equipped to deliver according to your specifications.

SPRUANCE primers, undercoats and finishes are a credit to their users.

SPRUANCE is proud of its reputation – your greatest safeguard.

SPRUANCE is the name to remember when you are in the market for finishing material.

SPRUANCE QUALITY is still supreme – always will be.

THE GILBERT SPRUANCE CO.

MANUFACTURERS OF

FINISHES FOR WOOD AND METAL

RICHMOND AND TIOGA STS. PHILADELPHIA 34, PA.

usage. The longer they can be used without washing, the more they contribute to the efficiency of the sprayer.

Edges of Shield at Line of Color Separation

The drawing marked Fig. 1 shows four types of edge design (in cross section) for the stop-off contour of a sheet metal mask. On the straight cut or right angle shoulder of *A*, paint will quickly flow down the vertical edge and smear the surface being masked. The edge *B* is beveled and will hold a considerable amount of paint before blurring. Usually it will be satisfactory when the operator is spraying lacquers or other fast-setting materials. The cross-section of *C* shows a projecting thin lip. This lip may consist of ⅛-in. or 1/16-in. of sheet-metal extending beyond the backing, or it may be milled when the mask is made from plate stock. The edge *D* differs from *C* only in being slightly under-cut. This edge *D* does not quite make contact with the surface being sprayed. Both *C* and *D* are more satisfactory for production work and their extra cost is more than justified. Of the two, *D* will hold the most paint without smearing. The outline produced by the edge *D* will not be quite as sharp but in many cases this is not objectionable.

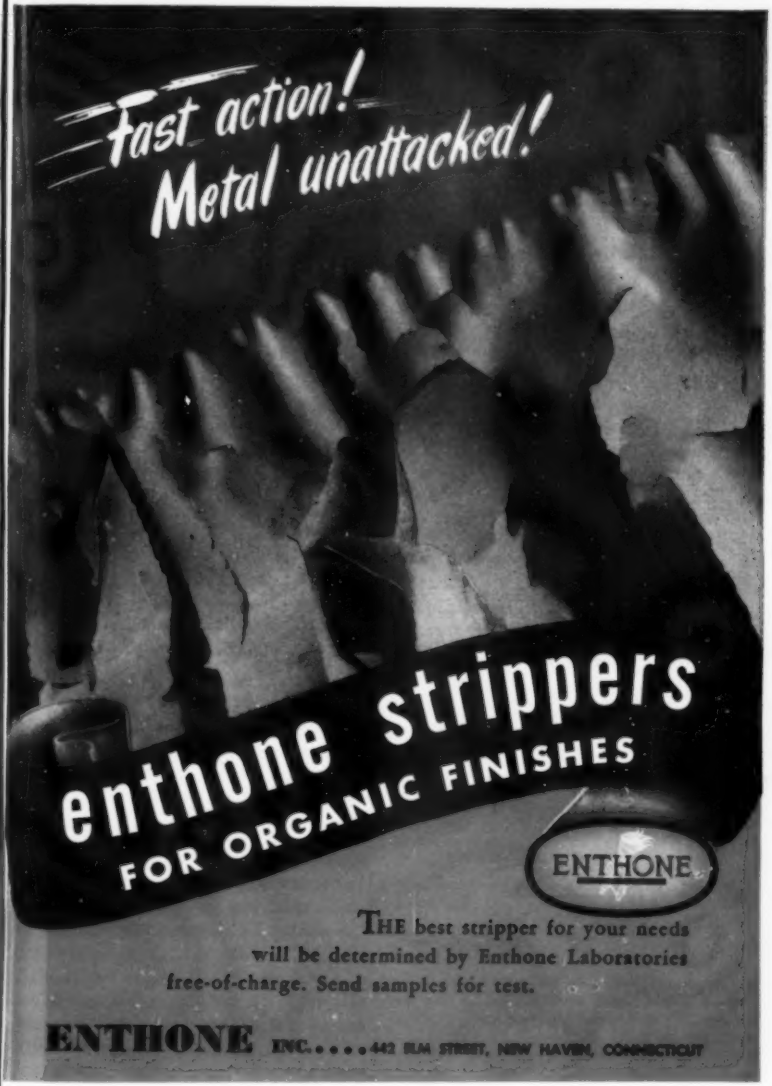
Positioning and Holding the Masking Shield

The next point to be considered is the method for locating and holding the permanent shield. If one or more holes or openings are in the shielded area, these will serve both purposes. The mask can be set in place on the part and temporarily held with clamps while the position of one or two holes is located from the opposite side. The pins or the buttons which will engage these holes, are made to fit the hole firmly, but are then given a slight taper away from the shield. This will make the placement and removal of the shield easier. When buttons are fastened with screws through the plate, the holes may be made a trifle larger in order to allow for adjusting if necessary.

Where no holes are available to use as guides for locating a masking shield, any one of several other methods may be used. Of course, a fairly heavy fixture will stay in position on a reasonably level surface by its own weight. If clamps are utilized to hold a shield in place they should be of the spring type or quick-opening type. Common C-clamps tend to become stiff with paint and they may shift the position of the plate. If the panels being sprayed are iron or steel, and if the mask contains some steel, then the mask can be held on even perpendicular surfaces through the use of either permanent or electromagnets, placed on the opposite side.

Using Vacuum Cup to Hold Shield in Place

Whenever part of a masking shield is out of spraying range, an ingenious method of holding it in place may be used. A hole two or three inches in diameter is cut through the shield at this point. A bow of flat spring steel or brass is formed which will bridge this hole. The bow spring is fastened


Fast action!
Metal unattacked!
enthone strippers
FOR ORGANIC FINISHES
ENTHONE
THE best stripper for your needs will be determined by Enthone Laboratories free-of-charge. Send samples for test.
ENTHONE INC. . . . . 442 ELM STREET, NEW HAVEN, CONNECTICUT

to the shield with wing screws at each end. In the center of the spring bow a rubber suction cup is fastened in such a way that it can be pressed down when the shield is put into place. The vacuum cup will take a firm grip on any smooth flat surface. The wing-nuts are for removing the suction cut to clean it, see Fig. 2.

Design of Handles for Masking Shield

The only remaining problem is to place a handle or two on our mask in order that it may be transferred easily from one piece to another.

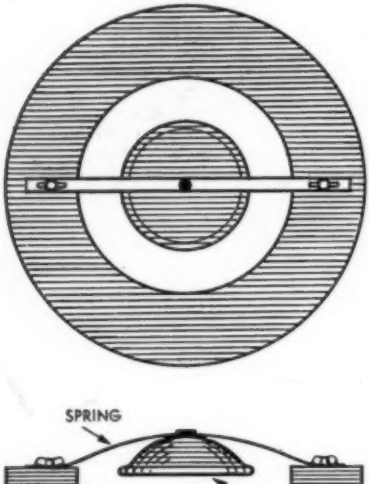


Fig. 2—Suggested idea for open-center disk-shaped shield fitted with a vacuum cup to temporarily hold it in position on a smooth vertical surface. Strips of masking tape across the open center would hold the disk in position too.

Small masks usually require only a single handle; this handle can be located at a point where the mask will balance easily. When two handles are required they should also be placed so that the weight of the mask is evenly distributed.

The handles should be designed or located in such a way that they will always present a clean surface to the operator's fingers. In some cases this may be possible by locating them out of the spray range. Rods may be screwed into the plate at right angles, being cut off at a height above the spray. A hook may be formed to facilitate lifting. A wide flat bow-shaped handle, if properly placed, will usually remain clean on the under or concave side. However, enough space should be provided between shield and handle, so that the operator's knuckles do not hit the wet shield. Drawer pulls of the shell or cup type, make excellent handles if properly located.

Cleaning and Drying Soiled Shields

If it is necessary to lay the mask aside between sprayings (while the work is being replaced) a level place should be provided so that the paint will not flow. To clean the shield, it should be immersed in a pail of solvent. Always place it with the soiled side down, or on the underside if it is leaned at an angle. In this way gravity will remove the softening material away from the plate. If the material is lacquer the pail should contain lacquer thinner. For most other materials, however, it is better to use a solvent such as xylol or toluol, as long as it is compatible. When the masking shield has soaked clean, it

A Doctor's Prescription for ZAPON Industrial Finishes?

Right! Atlas Powder Company has engaged a doctor to help develop a suitable finish for hospital equipment! This is the kind of service *you* can expect from ZAPON. It assures our customers that everything possible is being done to enable us to design the right kind of finish for any specific purpose.

Suppose that finish was for *your* product. Wouldn't you be gratified to know that not a single detail was being overlooked? ZAPON service is a special ingredient of ZAPON products that doesn't show on the label—or appear on your bill. Yet its *results* are tangible—for *you* it means fewer rejects . . . increased sales . . . friendlier customers.

Find out what ZAPON service can do for you. Your letter, wire, or phone call will receive prompt attention.

ZAPON
REG. U.S. PAT. OFF.

ATLAS POWDER COMPANY
Industrial Finishes
Stamford, Conn. · North Chicago, Ill.

should be swirled in a container of clean lacquer thinner. This will dissolve the last traces of paint and will also facilitate drying. Drying is important, as otherwise, trapped solvent may be blown out by the spray and spoil the work.

Since these fixtures may represent a considerable investment and since they are a valuable asset which may be wasted if they are damaged, it pays to take care of them. Rough handling should not be tolerated. When they are not being used a suitable storage space should be provided which will assure protection from damage.

Medical Attention for Solvent Illness

WORKERS handling volatile solvents should be instructed to report promptly any feeling of discomfort. Dizziness, headache, eye difficulties, weakness, nausea, or stomach upset may be due to other causes, but they can also result from inhaling solvent vapors and may serve as an early warning that medical attention is required. Neglect of such warnings may lead to serious illness. Prompt medical attention, on the other hand, generally leads to complete recovery.

In one instance, a man spent several hours cleaning some equipment with a substantial quantity of solvent in a basement room where there was little ventilation. Several times he felt a little dizzy and went outdoors for a few breaths of air and to get away from the odor. Since this made him feel better he said nothing about his discomfort but kept at the job until it was finished. Next day he felt worse and by the time he consulted a doctor he was seriously ill and had to be sent to a hospital.

In another case, a man entered a solvent tank to clean it, and made the serious error of entering the tank without a respirator. He became ill from the heavy solvent fumes and, instead of reporting to a physician, tried to treat himself by taking a few nips of hard liquor. A doctor would have told him that alcohol intensifies the effects of solvents on the body. His self-treatment led to serious illness.

Some persons are especially susceptible to solvent illness, and even a rather mild exposure (degreasing a motor or wiping metal parts with a solvent-saturated cloth, etc.) may lead to illness. For this reason, early signs of discomfort should not be overlooked even when it seems unlikely that much solvent has been inhaled.

While inhalation of solvent vapors is the most frequent source of solvent illness, it sometimes happens that the liquid is swallowed by mistake. The person should be made to vomit and a physician should be called at once. Also, since skin contact with solvents sometimes leads to dermatitis, persons who develop skin difficulties after working with these liquids should report to a physician to prevent aggravation of their condition.—*Safety Research Institute, Inc.*

Drebsky and Chipkin Join Hilo

Carl J. Schumann, President of the Hilo Varnish Corp. of Brooklyn, N.Y. announces that Benjamin Drebsky and Simon Chipkin have become members of the Hilo Organization.

Mr. Drebsky represents the Trade Sales Department of Hilo in Brooklyn, where he is well known to the dealer trade. Mr. Drebsky knows the problems of dealers.

Mr. Chipkin has been assigned to the Hilo Laboratory where he will devote all his time to trade sales products. He is a graduate of the City College of New York has done graduate work in the New York University and Brooklyn Polytechnic Institute and has had a number of years in the paint industry.

Finishing SYSTEMS

for ENAMEL • LACQUER • PAINT • VARNISH

Portable Dip Enameling Tanks Permit Application of FOUR DIFFERENT COLORS on ONE CONVEYOR PRODUCTION LINE!

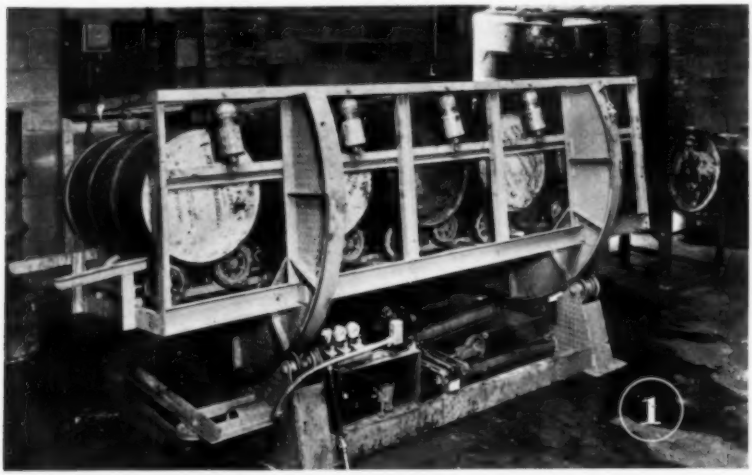
Illustrated here are parts of a complete self-housed Mahon Finishing System recently installed for the Coleman Company, Wichita, Kan. It is the second complete Mahon system purchased by the Coleman Company in four years. This Complete Finishing System, which was built adjacent to manufacturing buildings, consists of a six stage Cleaning and Rust Proofing Machine, one Dry-off Oven, a Filtered Air Supply System, three Hydro-Filter Spray Booths—one of which is 70 ft. long, one Paint Baking Oven for sprayed parts, one Paint Baking Oven for dipped parts, and four Portable Dip Enameling Tanks which permits switching to any one of four colors without interrupting production. The whole system was planned, engineered, built and housed by Mahon—one responsibility for final results. Progressive manufacturers everywhere are well aware of the important part modern, efficient, cost-reducing production equipment plays in today's competitive markets. That is why so many successful concerns turn to Mahon for top efficiency in modern finishing equipment . . . they know that the Mahon organization has pioneered development in this highly specialized field for twenty-nine years . . . they know also, that the experience of Mahon engineers, which is world-wide in scope and covers virtually every industry where finishing constitutes a major production operation, has endowed them with a wealth of technical knowledge and practical know-how not available elsewhere. Write for Catalog No. 649, or see it in Sweet's Mech. Ind. File.

THE R. C. MAHON COMPANY

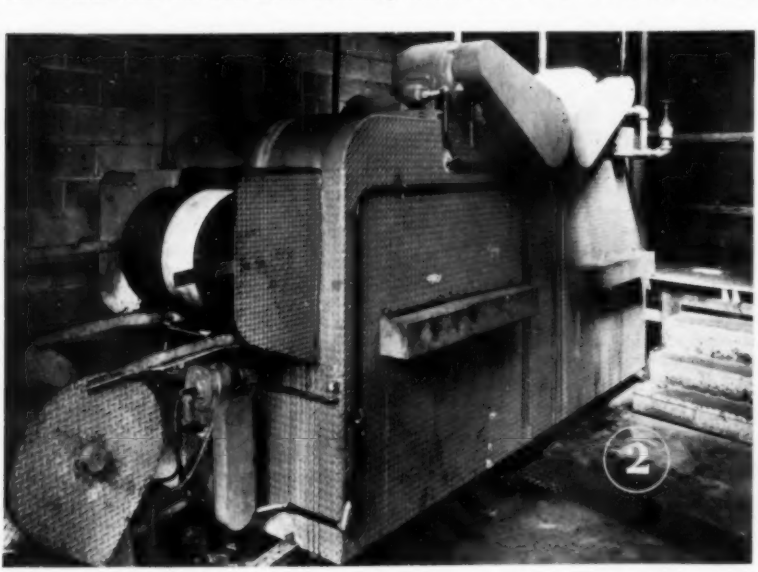
HOME OFFICE and PLANT, Detroit 11, Mich. • WESTERN SALES DIVISION, Chicago 4, Ill.

Engineers and Manufacturers of Complete Finishing Systems—including Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Dry-off Ovens, Hydro-Filter Spray Booths, Filtered Air Supply Systems, and Drying and Baking Ovens. Also, Core Ovens, Hydro-Foam Dust Collectors, and many other Units of Special Production Equipment.

AHON



This machine rocks and rolls drums containing solvent and chain links to clean interiors.



Outsides of drums are sprayed with hot alkali solutions and then rinsed in this machine.

CLEANING AND PAINTING USED *Steel Drums*

By WILLIAM J. MISKELLA
The Miskella Infra-Red Co.

DID YOU EVER wonder what happens to your old paint drums after you have emptied them? Of course, you realize the paint manufacturer could not refill them without some sort of cleaning operation. Well, here is the real inside story of what goes on behind the scenes in many of the barrel and drum "junk yards" you sometimes see in a secluded part of an old delapidated industrial area, usually alongside a railroad spur track.

Returnable drums are collected in many ways. You may ship yours back to the paint company's plant for credit where they are collected until a carload or a truck load is ready to deliver to the drum refinisher. There they are unloaded in the yard and sorted according to type, after which they are moved into the plant.

Cleaning Caked Paint From Inside Drums

If the paint inside is badly caked, five drums at a time are placed in a special machine called the "Chainer" (Fig. 1) where they are rocked and turned and rolled vigorously. This special machine derives its name from the fact that pieces of

Fig. 3—Drums are placed over protruding nozzles which spray hot alkali cleaner into them.

log chain are placed inside the drums to serve as a medium for loosening heavy residue such as caked paint or other solid or semi-solid material that is inside the drum.

The "Chainer" has several mechanical motions designed to scrape the interior surfaces with chains or other tumbling media. There is a rocking motion to tilt the five drums in the machine simultaneously from one end to the other so the solvent liquid will swish back and forth continuously. Then there is the revolving motion. A pair of rollers on the bottom causes the drums to rotate slowly. When the interiors of drums are perfectly free of paint of any solidified material that may be inside them, they pass on to the next special machine (Fig. 2) where the exterior coating is removed down to the metal.

An inclined skid through the window guides the drums directly into the washer wherein hot alkali cleaners, under pressure, spray the outsides of the drums from all directions to soften the old paint, dirt and what not. Near the exit end of this washer large rotary scrubbing brushes do a marvelous job of thoroughly cleaning the exterior surface. A hot rinsing operation is included also.

Final Cleaning of Drum Interiors

Referring again to Fig. 2, a platform four steps up from the floor has a roller conveyor long enough to hold ten drums which are placed head down over protruding vertical nozzles, see Fig. 3. Powerful sprays

A mass production setup for cleaning and inspecting the insides and outsides of used steel drums—and for spray painting and baking the outside coatings.

of the hot alkali cleaner are simultaneously directed upward into the interiors of the ten drums. Afterward the drums are systematically lifted off the protruding nozzles and placed on another run of roller conveyor so that the cleaning liquid may be drained out and into a grate-covered trough in the concrete floor. This used cleaning liquid flows back to the exterior washer which pumps it up and into a recirculating system to be used over and over again.

In Fig. 4 you see part of a row of ten drums, each drum in slightly tilted upright position. A long noz-

Fig. 4—Siphoning rinse water from drums.

Sure! Burdett Can Be Engineered to Your Present Equipment

WITH HEAT PROCESSING SAVINGS NORMALLY AS MUCH AS 30% TO 70%!

BURDETT (RADIANT HEAT) GAS SYSTEMS

HERE'S WHY YOU SAVE WITH BURDETT

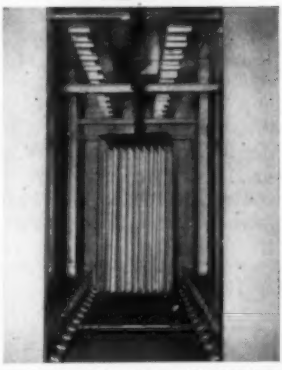
Radiant Heat Systems — designed and engineered by Burdett—give you results greatly superior to that possible with commonly used methods. You have complete, clean combustion through the use of Radiant Heat, and therefore a much higher standard of efficiency. Your production is consistently more uniform in quality, with rejects practically eliminated. Your fuel consumption is materially reduced, with man-hours and handling costs also lessened.

BURDETT SYSTEMS ARE PROVING THEMSELVES WITH MANY OF YOUR COMPETITORS —

PARTICULARLY IN SUCH FIELDS AS:

- PAINT — ENAMEL — LACQUER DRYING
- FLASH COAT DRYING
- BURN-OFF, DEGREASING
- WATER DRY-OFF
- CORE BAKING
- SOFT METAL MELTING
- FOOD PROCESSING

THE BURDETT BURNER
Heart of the Burdett System.



Another typical testimonial for Burdett Radiant-Heat Systems is this Wisconsin manufacturer who processes 2400 pieces per hour. With three complete baking operations required, he found Burdett Systems effected a 40% saving in time over an electric drying installation!

PROOF COSTS YOU NOTHING!

Send a blue print of your present equipment, together with a full description of your requirements. You will receive promptly and without obligation Burdett-engineered recommendations—positive progress in meeting today's challenging competition!

BURDETT
MANUFACTURING COMPANY
3425 West Madison St. Chicago 24, Illinois

RADIANT HEAT GAS SYSTEMS

zle is inserted into each drum so that the end of the nozzle rests in the low corner inside the drum. Through these nozzles and the attached hose, rinse water is pumped out of the drums. This setup is known as a syphon dryer.

Inspection and Complete Metal Conditioning

Cleaned drums are moved by roller conveyor to an inspection station where a tubular electric lamp on the end of a long rod, and controlled by a counterbalance, enables the inspector to look into the drums and reject those that are not up to standard. Occasionally the inspector catches a drum which should have been directed to the motor driven chaining machine shown in Fig. 1.

After the drums have been thoroughly cleaned inside and outside and passed by the inspector they are rolled into another ingenious machine developed by Mr. Gotlieb —the "Gotlieb Chime Sealer," see Fig. 5. This Chime Sealer has every mechanical feature needed to thoroughly roll the chimes or heads of the drums in such a manner as to take out dents and close openings, etc. A pair of heavy steel head plates fit into the chimes and grip the drum. A push button switch controls this gripping action.

Another push button starts the machine rotating. The complete electric control box is shown just above the motor. Still another button sets the automatic release so that the drums, as they undergo processing in this Chime Sealer, may roll down the skid and into position for entrance to the spray booth. Pressure tanks of paint, one for each color, appear in the background, at right, Fig. 5. *(To p. 66)*

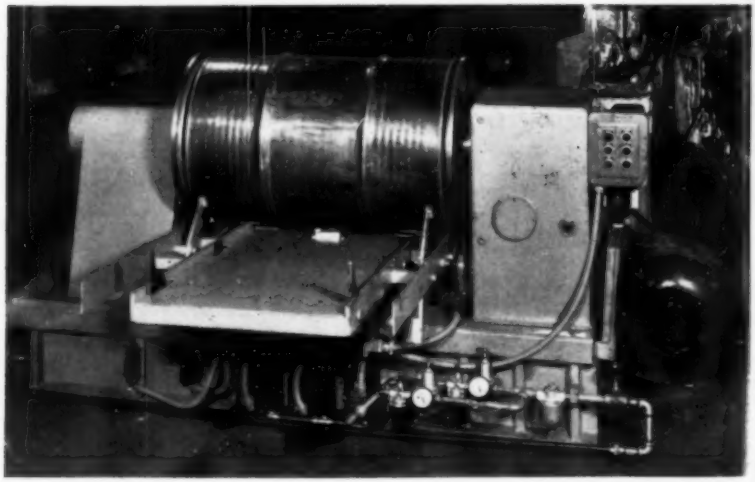


Fig. 5—Gotlieb Chime Sealer removes dents and puts drums into perfect shape for service.

got you hog-tied?

ABSURD COMPARISON? Yes and no! Many production men get this restricted feeling when faced with today's costs.

If you are constantly on the lookout for a way to keep manufacturing costs *down* and quality *up*, perhaps it is time to go over your finishing methods and materials again. Actually, finishing costs play a vital part in your *total* end-cost . . . *involve considerably more than the mere price per gallon of the finish itself!*

All down the line . . . in factors such as drying time, storage space, labor costs, percentage of rejects, and packaging . . . the *right* finish, correctly applied, can save you money. Subtracted from end-cost, these savings may make a substantial difference in the final figure.

Take advantage of the possibilities for more economical production in your plant. Call on Du Pont. Today, thousands of pretested formulas under the trade names "Duco" and "Dulux" are helping to keep manufacturers' end-costs at a minimum.

you have a finishing
or a tough technical
& Co. (Inc.), Finishes

FINISHES

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Spray Painting Drums Automatically and by Hand

The spray painting machine shown in Fig.6 can be operated either automatically or manually. Included in the setup is a battery of automatic spray guns, each set to do a certain portion of the painting job, in any color combination required. An electric revolving device rotates the drums in front of these spray guns. In much less than one minute the painted drums are automatically kicked out of the painting machine, rolled down a slight incline where the ice-tong grippers automatically engage the drums and carry them away by overhead conveyor to an infra-red oven.

When it is not practical to use the automatic spray equipment, two spray operators, with a spray gun in each hand (four guns in all) paint the heads and body of each revolving drum with two colors as you see in the illustration.

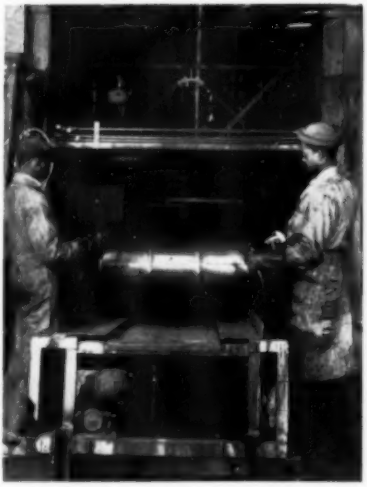
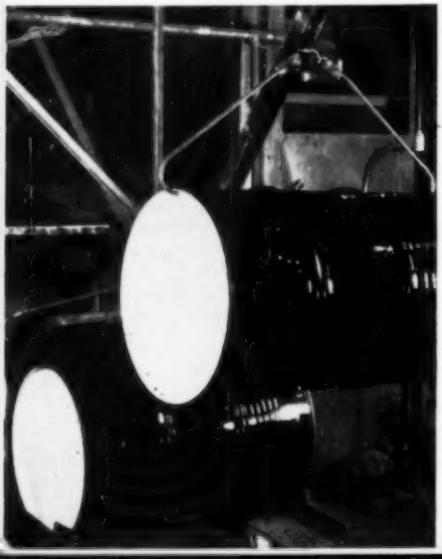


Fig. 6—The spray painting machine can be set for automatic or manual operation.

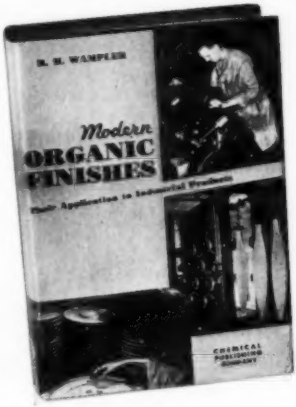
Fig. 7—Ice-tong grippers slide into position and pick up drums automatically.



Pick-up Grippers; Conveyor; Infra-red Oven Baking

On the opposite side of the spray booth the automatic pick-up grippers go into action. Note the return of grippers directly over the spray booth. The moving but empty grippers simply slide along on a pair of rod guides (see left in Fig. 7) and spread sufficiently to admit the painted drum. No labor; no trouble; they just keep on working all day long. This method of holding painted drums permits the use of angularly directed infra-red lamp heat on top and bottom, as well as on the ends, see Fig. 8. *(To p. 68)*

A "MUST" For All Finishers!



ORGANIC MODERN FINISHES

"Their application to Industrial Products"

This book contains 432 pages of the latest information on finishing. It describes modern finishing materials and equipment for their application, drying, conveying, etc., so that the reader may have an overall picture of modern industrial applications. Throughout, the main emphasis is on proper selection and use of materials to get the best possible finish at minimum cost.

It's Complete — Note the Contents

MATERIALS: Oleoresinous and Alkyd Varnishes and Enamels; Cellulose Lacquers; Spirit Varnishes, High Integrity and Specialty Finishes; Stains, Wood and Metal Fillers, and Miscellaneous Finishing Materials.

MODERN APPLICATION METHODS:

Spray Painting; Dipping and Flocoating; Roller and Knife Coating; Tumble and Centrifugal Finishing; Special Processes.

DRYING METHODS:

The Drying Process—Air Drying; Force Drying; Baking by Convection and Radiant Heat; High-Frequency Baking.

PRODUCT HANDLING IN THE FINISHING DEPARTMENT:

Conveying Methods.

FINISHING PROCESSES:

Wooden Furniture and Cabinet Finishing; Prefinishing Wood, Plywood and Hardboard Structural Materials; Special Industrial Wood Finishing Problems; Finishing Paper, Cardboard and Fabrics, Finishing Plastics and, Resin-Impregnated Wood; Cleaning and Surface-Treating Metals; Finishing Automotive and Railway Equipment; Finishing Sheet Steel Products; Finishing Iron Castings; Finishing Aircraft; Rubbing and Polishing Organic Finishes.

SOME GENERAL CONSIDERATIONS:

Good Practice in the Finishing Department; Testing and Evaluating Finishes.

The price is $8.50 and to eliminate bookkeeping we ask that cash accompany order. Sold on a money-back guarantee. Money refunded promptly and without any questions if you are not satisfied.

INDUSTRIAL FINISHING Magazine

1142 North Meridian Street **Indianapolis 4, Ind.**

The infra-red oven setup shown in Fig. 8 has contributed to much lower operating cost and greater output. Not only are the drums successfully baked in the combined infra-red oven and conveyor setup, but the entire job is almost 100% automatic, even to the actual delivery of drums (still on the conveyor) to motor trucks at the shipping room door. The driver of the truck now lets the drums down from the conveyor to load them on to his truck. Formerly air-dried drums were stored on the floor of the shipping department where they had to be lifted up to be placed on the motor truck.

Inside the infra-red oven angularly directed heat is instantly applied to all surfaces for four minutes. The drums are supported from conveyor hooks 36-in. apart on center. Drums do not revolve in the oven. However, when they come out they are too hot to handle, so the 10 minutes of travel time from the oven to the shipping department, on an extended conveyor, settles this minor point. The oven has a connected load of 162-kw. and processes 90 heavy returnable 55-gallon drums per hour at a temperature of 250° F.

The entire bottom of the oven consists of hinged sections which drop down to enable maintenance men to get in easily for servicing the heat lamps. An expanded metal screen serves as a safety guard for the lower banks of lamps in case a drum should accidentally drop in the oven. Eighteen control switches are used to vary the oven heat, and a master control near the entrance of the oven serves to connect or disconnect the entire oven as well as ceiling blowers. [END]

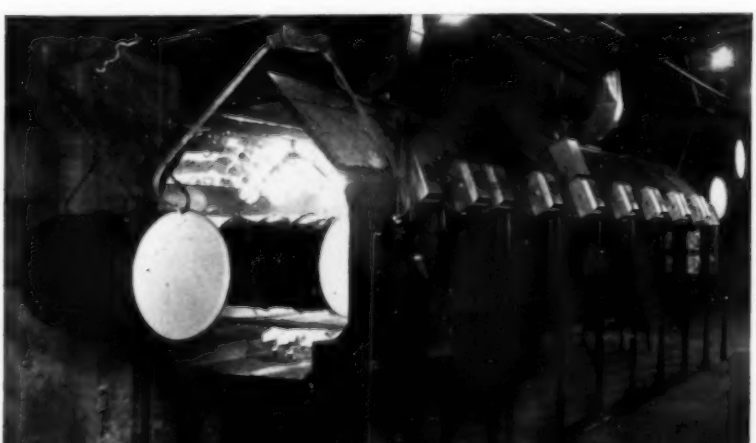
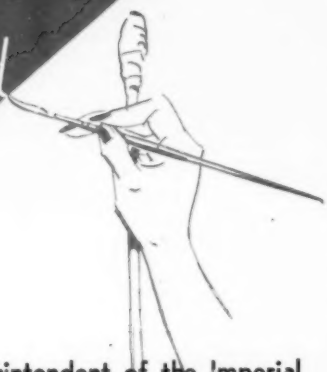


Fig. 8—Infra-red oven which bakes the paint on drums as they travel through by conveyor.

Finishing Hand Decorated Furniture



By A. F. Christy

Superintendent of the Imperial Furniture Co. at Grand Rapids, reveals methods used to finish fine console cabinets; how they are stained, wash coated, filled, sealed, shaded, marked, hand painted, crackle finished, antiqued, sprayed with a clear lacquer and then rubbed, wiped and polished to a nice sheen.

THERE IS something about finishing fine hand decorated furniture that is extremely fascinating. The deft touches of the artist and the craftsman are revealed in the colors of flowers, leaves and stems, in the blending of colors, the brush strokes and the shading and antiquing. These are the things that remove this type of furniture from the commonplace.

Stain; Lacquer Wash Coat; Sand and Fill

To illustrate what I mean, I shall describe the finishing procedure on a console commode. These cabinets come to the finishing room on a belt conveyor. First they are dipped into a mahogany water stain. They are allowed to dry overnight, after which they receive a wash coat of low solids lacquer. The lacquer wash coat dries in about 15-minutes. Then the commodes are thoroughly sanded with No. 7/0 sandpaper, and wiped clean. Next an oil-base filler is sprayed on, padded in and wiped. Then the cabinets air dry overnight.

Next morning a lacquer sealer of 21% solids is applied. After drying from 1½ to two hours the sealer coat is sanded and wiped clean.

For shading, which is the next operation, a pigmented oil stain is used. A stencil, cut from stencil paper, protects the narrow upper panels and the center (cut-out corners) panel so that the decorating outline may be sprayed, leaving the center panels a lighter shade. This shading stain dries overnight.

Up to this point all of the operations on cabinets have been more or less mechanical, requiring the

services of experienced spray men, sanders, etc. For hand decorating we have partitioned off a studio which is removed from the confusing hurry and noise of moving machinery, conveyors and spray equipment. Artists work in the studio.

First the panel border stripe is applied by hand brush. When this has dried, a perforated stencil is centered on panels and door members. Then, using a white stencil powder, the design is pounced on the wood. For hand decorating, dry color powders are used with a shellac mixture. Only the outline of the design is applied by stencil. Ribbons, border, flowers, stems and leaves are actually formed and colored by individual artists. It is this that makes the commode something outstanding, rather than just another piece of furniture produced entirely by mass production machinery and methods.

Crackle Finish Baked; Antiquing; Blending

Hand decorations will actually dry in about four hours, but we prefer to allow them to dry overnight. Then the cabinets go back on the line where the first operation is an application of crackle finish. Hide glue is thinned with water to spraying consistency, and a spray coat of this is applied. Cabinets are placed in an oven for ten minutes at 125° F., with a relative humidity of 35% of saturation. This process produces the crackle finish.

Upon removal from the oven the cabinets are allowed to cool for about 20 minutes; then they are antiqued with an oil-base stain. This antiquing is applied both by hand and by spray gun. The spray gun is used to antique the top, legs and borders; hand work is employed on panel centers around the hand decorated designs. This is an important operation. It might be called a shading operation.

To make hand decorations on furniture realistic and effective it is essential to eliminate all sharp, clear cut lines, especially around the outside edges of the painted design, so that the flowers, stems and leaves seem to blend into the background. Otherwise, if the design stands out in bold relief and is clear cut, it will have the appearance of a picture or a decal; all of the beauty and effectiveness of skillful hand painting would be lost. At the same time the shading must not obscure the outline of the design. To produce the best results, the design must blend in with the immediate background and still retain its identity and coloring. Following this operation, cabinets are allowed to dry overnight.

Clear Coats Applied; Sanding; Rubbing; Polishing

To protect the finish and the painted designs, two top coats of 21% solids gloss lacquer are applied. About five hours drying time is allowed between coats, and overnight drying is given after the second coat.

Cabinet tops are wet sanded with portable reciprocating machines. The felt pads are covered with No. 360 wet-or-dry sandpaper and a mixture of ⅔ rubbing oil and ⅓ naphtha is used as a vehicle. The remainder of the cabinet is rubbed with 3-F pumice, using the same vehicle of rubbing oil and naphtha.

with Monsanto finish

Monsanto's specially developed range of *colorful* metal enamels is keyed to the latest consumer preferences.

These modern baked enamel finishes have outstanding chip resistance, excellent adherence, extra high gloss in the Bridg-Mor bridge set by Hampden Specialty Products, Inc., Easthampton, Mass.

Hampden finds Monsanto enamels mean more efficient production . . . new production economies. Baking time is shortened. Furniture comes out of the oven dried and cured ready for immediate packing even on warm, humid days.

Like Hampden, many other *mass-production* businesses boost sales and cut unit costs with Monsanto finishes. For information on Monsanto finishes for your products, clip the coupon below.

Serving Industry . . .
Which Serves Mankind

MONSANTO
CHEMICALS – PLASTICS

MONSANTO CHEMICAL COMPANY, Merrimac Division, Dept. IFM6, Boston 49, Mass.

Please send me information on Monsanto coatings for

.....

Name **Title**

Firm

Address

City **Zone** **State**

and finishing off the entire cabinet with rubbing compound, oil and naphtha.

The commodes then go to the trim department where hardware is put on. Edges are touched up before a coat of mineral wax is applied. A sheep skin wheel is used to polish the cabinets. After final inspection they move by conveyor to the packing department.

Pinholing on Mahogany

PINHOLING of mahogany, both in veneers and solid woods, has caused extensive trouble in the furniture and radio-case industry this year. I personally have worked on this in several different plants and have come to some definite conclusions.

1) The trouble is not really pinholes; it is blow holes which originally start from wet filler, wet stain, or a combination of both. It seems that the wet materials blow tiny bubbles in the sealer coat; then, in turn, in the topcoat. Some of the bubbles break naturally and some break only when hit by the rubbing abrasive.

2) During periods of high humidity, we experience this trouble more than when normal climatic conditions prevail.

3) Normal thin coats of lacquer are less likely to blister than heavy coats.

4) Lacquers that are high in long wet solvents are less likely to blister.

5) Overnight (drying) type fillers cause less trouble than Q.D. (quick-dry) types.

My last experience with this trouble was early in July when very humid conditions prevailed. Most every case was blistering and making blow holes. One concern that had this trouble was using Q.D. filler with an addition of oleum spirits and naphtha. In my opinion this filler did not dry properly after four hours at room temperature. I suggested that we change to regular overnight type filler, and use no oleum —just straight V.M.P. naphtha.

We changed and left the finish room windows open all night to get the benefit of cross ventilation. When we coated those cases next day our troubles had disappeared. Pinholes or blisters were gone and we had a much better surface to rub.

To sum this all up, I believe that if your mahogany is well prepared before entering the finishing room, and if your filler is well padded, and if all materials are thoroughly dried, you will reduce your blistering and pinholing to a minimum—and doing this will not be prohibitive to normal finishing costs.—HAROLD T. DEAN.

McKinley Goes to Hooker-Detrex

H. D. McKinley has been appointed Works Manager of the new degreasing-solvent manufacturing plant being erected by Hooker-Detrex, Inc., at Ashtabula, O.

Mr. McKinley, who collaborated in the design, erection and initial operation of the Tacoma, Wash., plant of the company, is transferring from his position as manager of the solvents division of Detrex Corp.

Hooker-Detrex, Inc., is a jointly owned subsidiary of Hooker Electrochemical Co., Niagara Falls, N.Y., and Detrex Corp., Detroit, Mich. Detrex Corp. markets all the solvent produced by the subsidiary company.

Ed Haworth Joins Wilkinson Equipment & Supply Co.

Mr. Ed Haworth, well known throughout the finishing industry, has joined the sales staff of Wilkinson Equipment & Supply Co., 6958 S. Wentworth Ave., Chicago 21, Ill. Mr. Haworth has helped many manufacturers with their finishing room problems and has had several years of practical experience in engineering and installing finishing room systems. His position with Wilkinson Equipment & Supply Co. will be to engineer the company's complete line of spray equipment, spray booths, conveyors, etc.

LOWER PRODUCT FINISHING COSTS

with the Brake Shoe MICRO-SPRAY GUN TRADE-MARK

1. **SAVES PAINT** — more efficient, uniform paint distribution.
2. **SAVES AIR** — sprays with less cubic feet of air per minute at lower pressures.
3. **SAVES TIME** — sprays faster.
4. **SAVES ON MAINTENANCE** — designed and sturdily built to resist wear and damage in service.

Plus

A SMOOTHER, BETTER FINISH THROUGH FINER ATOMIZATION

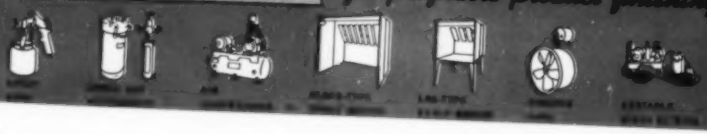
Put Brake Shoe MICRO-SPRAY Guns on *your* finishing line. Then compare all performance factors . . . four-way economy, quality of finish, simplicity and ease of using, and speed. Your own findings will convince you that Brake Shoe MICRO-SPRAY Guns deserve a "steady job" on your finishing line . . . helping you produce better finishes . . . faster . . . at lower cost.

WRITE for CATALOG containing complete information on the Brake Shoe MICRO-SPRAY Gun and Paint Spray Equipment.

AMERICAN BRAKE SHOE CO.
KELLOGG DIVISION
90 Humboldt St., Rochester 9, N. Y.

AMERICAN **Brake Shoe** COMPANY

builds better
PAINT SPRAY EQUIPMENT
for profitable product finishing



Furniture Style Review

By KARMA JOHNSON, Fashion Writer
American Furniture Mart, Chicago

A DINING ROOM suite like mother used to have is going to be pretty hard to find—and much less desired—as new styles skip from the conventional to the new. The new design crusade which announced itself at the American Furniture Mart is prepared to pass out beauty, comfort and convenience in large doses to satisfy the needs of modern living.

Perhaps the most interesting style change and one which will have the most direct bearing on home decoration is the new emphasis on woods and finishes. Whereas the formula for fool-proof decorating has been based on carpet or drapery colors, it will likely be revised to build color harmony from the furniture itself.

Finishes and Colors That Are in Style

The trend is away from bleak blondes to autumn tans, all shades of gray, deep walnut, rich mahogany and Cordovan mahogany finishes. Interest is being focused on the patterns of wood grains — swirls, stripes, and variable markings—as more new woods come into vogue. Popular in this market are Korina, Avodire, and the first appearing Alvoro.

Modern maintained its strong lead over traditional, Early American and French Provincial, but it's not the modern of a year ago. It's modern with a new warm look. Curves have taken precedence over straight lines; hardware is more distinctive with a "dressed-up" look. Where straight-line modern was shown, it appeared with a picture-frame treatment or a brief line of decoration. Case pieces are being designed away from the floor to give the appearance of suspended units and to ease housekeeping.

New design in both modern and traditional case goods extends to the interiors of vanity, dresser, chest and wardrobe units. Sliding panel doors conceal cleverly engineered storage space in the form of tray-drawers, vertical dividers and shelves for lingerie, shirts, handbags, shoes, hats, etc. One manufacturer featured movable drawer partitions to fit exacting storage needs. The modern wardrobe is part of a co-ordinated bedroom group and sized to line up with other units. One side is cedar-lined for suits and coats, the other is fitted with tray-drawers.

Traditional furniture is moving toward heavier design with Empire and Regency popular.

(Continued on page 81)

Chinese Styling and Colors in Vogue

Every possible interpretation of Chinese styling appeared in both upholstered and case goods lines and was particularly notable at the mass market level. Black finishes with gold trim stressed the Chinese motif in case goods lines while Mandarin colors and fabrics with angular designs did the job for upholstered pieces.

Tailored lines in living room groups are replacing commercial styling. More attention is being given to over-scaled pieces for which there is a real need in larger living rooms and spacious ranch-type homes. Showings indicate a strong trend toward colors in the darker range — brown gold, leaf green and Mandarin red.

..th occasional and dining tables ..re outfitted with tricky tops which, when slid back, revealed utility space for extra leaves or smoking accessories. Corner and step tables are designed to be used separately or grouped together in different arrangements.

Television is influencing trends towards longer curved sofas, touch and tilt chairs for visibility and comfort purposes. Swivel top tables of modern and Chippendale styling change the view of a television set easily without extra lifting. A new cabinet was introduced, co-ordinating television accessories with space for four folding chairs, records and portable radio.

Juvenile furnishings are featuring safety gadgets to control bed sides so that mother can get in, but Junior can't get out. Sectional shelves for books and toys prove that baby is going modern like her parents. Nursery styles are becoming more specific as noted by the appearance of modern, traditional and French Provincial, to blend with furnishings of the entire home. Units are on an open stock basis and are designed to grow with the child.

Random Comment on the Industrial Scene

(Continued from page 6)

lamp fixtures is now being produced in volume by Suclar Laboratories, Inc., Newark, N. J., it was announced today. The unit is designed to fit any fluorescent fixture. It is called Suclar Automatic Safety No Blink Starter.

If a Suclar starter is called on to light a bad lamp, and the defective lamp does not light within 30 seconds, a highly intricate thermal relay automatically switches off the lamp. According to company engineers, the safety device thus prolongs the life of the starter, fixture and transformer, stops needless waste of current, and eliminates any possibility of fire.

* * *

Irilite is the name of a finish material which amalgamates an iridescent flake substance from sea shells with vinyl compounds, fiber glass, acrylic, melamine fabrics or paper. It is said to impart an iridescence to plastics and fabrics. More than 100 finish combinations are available. Samples of finished products include lamps, chairs, tables, musical instruments, hand-bags, table tops and toilet seats.

* * *

Safety for Eyes. Much of the more dangerous aspects of workmen accidently getting chemicals and other

foreign matter into their eyes can quickly and easily be avoided with a new eye wash fountain and a specially designed shower just developed. Made in two styles, either of which may be easily installed anywhere, great promise is held for better safety records in chemical and other industrial plants where this equipment is installed.

The one model, a fountain with two specially designed angle stream heads, directs a double stream of clean water into the eyes at a simple twist of the control valve. This immediately dilutes and washes away the foreign matter. A product of Haws Drinking Faucet Co., Page & 4th St., Berkeley 10, Calif.

* * *

Portable Lift Tower for overhead jobs around the plant has been announced. This manually operated work tower has a platform which may be raised or lowered to any desired height hydraulically. It eliminates ladders and provides a safe and efficient means of washing light fixtures, servicing electric and air lines, steam pipes, overhead ovens and conveyors. The base is mounted on double, ball-bearing, swivel casters equipped with a locking device.

* * *

Furniture Markets. Congratulations are in order to Chicago on the 25th anniversary of the furniture show.

Lawrence H. Whiting, president of the American Furniture Mart, said: "Buyers and exhibitors alike found stimulation in the return of normal market conditions."

New patterns and restyled lines predominated in the 1250 exhibits. Salesmen had their first chance in quite a few years to get out and really sell their lines.

The National Retail Furniture Association said that inventories, as of June, were 10% below that of last year. They also reported that furniture sales were down 9½% over June 1948. This year's market prices averaged a 10% decline.

The New York market, which followed the Chicago show, reported 3100 attendance on opening day. This 58th summer market was so large that the overflow of 58 exhibitors had to be placed in the nearby Seventy-first Regiment Armory.

A heavy volume of small orders was placed at an average decline in price of 10% compared with last year. The fact that price declines at both the Chicago and New York shows are the same is perhaps an indication that prices have arrived at a firm level. This will greatly aid both the buyer and the manufacturer.

The High Point show at the Southern Furniture Exposition Building opened with more than 300 exhibitors. A survey indicates many new types and styles of furniture. More new and original patterns were shown than at any time since long before the war. Price trends followed closely the pattern of the Northern markets.

* * *

Aluminum Powders Movie. "The Tale of the Powdered Pig", a new sound and color film, has been released by the Reynolds Metals Co., Louisville, Ky.

Produced by Reynolds own motion picture department in Louisville, the film describes the uses to which aluminum powders and pastes are put, ranging from polychromatic finish on automobiles to pyrotechnics and the coloring of a myriad business and household appliances.

The process of converting bauxite into aluminum is described briefly so that the audience can better assimilate the intricate procedures which are necessary before the powder is ready to be made into paints.

There is a modern . . .

KIRCO FINISH FOR YOUR PRODUCT . . .

LACQUERS
Clear and Pigmented

SYNTHETIC ENAMELS
Bake and Air Dry

WRINKLES
All Shades & Tones

SNO-TEX
Air Dry White Enamel

KIRTEX
Hammered Texture Finish

KIRBAKE
Black Baking Enamel

ROLLER COATINGS
Lacquer & Enamels

All KIRCO Modern Coatings listed here have been tried and proven in production use in many different industries. They are dependable, uniform, foolproof and attractive.

A working sample will prove their worth to you.

KIRCO MODERN COATINGS

KIRCO Modern Coatings are delivering trouble free performance to prominent manufacturers of metal, wood, plastic and glass products.

Kirker CHEMICAL COMPANY

ONE EAST ELEVENTH STREET • PATERSON 4, NEW JERSEY

One-Coat Hammer-Effect Finishes

I am interested in obtaining information concerning papers or articles published relative to the formulation and application of one-coat aluminum hammer finishes. Would you please advise me as to any articles which you may have published on this subject and how I may obtain a copy of them?—C.L.R.

We have not published any articles about the formulation of finishing materials, but have published some about the application of hammer-effect coatings. Tear sheets of a few of the latter are being sent to you.—ED.

Furniture Polish Wanted

We would like to know the type of material you reccommend to secure a high-grade permanent polish on cabinets; one that will not turn grey or leave a film on the wood.—C.C.

Our list of polish suppliers is incomplete. We are asking firms that can supply polishes to write us.—ED.

We Can Help Them

In June 1949 issue, page 98, we notice inquiries about "Gasket-Process Finishing" and "Lead Pencil Finishing." We believe we can help the firms who made these inquiries and would therefore appreciate their respective names and addresses. We want to contact them direct. —The NATIONAL CHEMICAL & PLASTICS Co., Baltimore 31, Md.

Information supplied.—ED.

Processing Aluminum for Painting

We shall be much obliged if you will let us have several tear sheets of the article "Production Line Processing of Aluminum for Painting" by Arthur P. Schulze, beginning on page 37 of INDUSTRIAL FINISHING for April 1949. We are subscribers to your publication, but do not want to destroy our copy which is used for reference purposes.—I. C. P., Johannesburg, So. Africa.

Tear sheets supplied—ED.

Dip Whirling Machines

We would like to obtain the name of a manufacturer of dip-whirling machines. We wish to dip-whirl small flat bronze pocket coins or medallions. Could you recommend a good lacquer for this purpose?

We enjoyed the article by Fred Rossberg in the June issue of INDUSTRIAL FINISHING. ("Coating Small Hardware with Lacquer." pages 66, 67, and 71).—C.L. Co.

See pages 109 and 111 of that same June issue.—ED.

Non-Slip Deck Paint

Will you please advise us the name and manufacturer of the paint used by the U. S. Navy to make decks "non-slip" when oil, blood, etc., are spilled on the deck?—D. & R.G.R.R.

We are in the need of a paint with an abrasive, to provide sufficient roughness for friction, in order to obtain a non-slip surface on one of our items. One firm has advised us that you would have in your reference file, the name of a manufacturer of such a paint.—S. MOP WRINGER Co.

We are not sure whose material the Navy used, but are sending you names and addresses of two manufacturers who, we understand, make a material suitable for this purpose.—ED.

Repainting Steel Drums

It is our understanding that you recently (within the last six months) published an article on the refinishing of steel shipping drums. If you can do so, without too great expense or trouble, please send us tear sheets or a copy of this article.—P. Barrel & Drum Co.

One article on this subject appeared in Febr. 1949 issue, pages 62, 64 and 66. Tear sheets of this article are being sent to you. Another article on the same subject appears in this issue.—ED.

Clear "Plastic Spray"

I have been using Spirit Label Varnish for coating photographs that have been hand colored, and while results are satisfactory for one type of work, I found that the new Plastic Spray material that is o

NEW PERIOD
Production Finishes
BAKING ENAMELS
LACQUERS SHELLAC
ENAMELS FILLERS
SEALERS SUPPLIES
PRIMERS STAINS
SYNTHETICS VARNISHES
Hundreds of Manufacturers are Satisfied Users of New Period Quality Finishes
MAY WE SERVE AND SATISFY YOU?
FILLERS and STAINS—New Period has long been famous for its quality Fillers and Stains. Unequaled color-matching service.
LACQUERS—CLEAR & SEMI-GLOSS. Uniform and dependable—Suitable for coating almost any surface—Provides more coverage and unusual mileage. Cuts costs and maintains quality.
SEALERS—Provides excellent body, dries fast and sands easily.
LACQUER ENAMELS—FLAT & GLOSS. Available in a wide variety of matched colors and shades. Widely used by leading manufacturers in many different industries.
SYNTHETIC ENAMELS—A durable and trouble-free finish for fast production. Built to meet the most exacting requirements.
Remember New Period Finishes for Quality and Service
MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES.
NEW PERIOD Production Finishes
ESTABLISHED 1917
NEW YORK WOODFINISHERS' Supply Co.
109 IMLAY STREET BROOKLYN, N. Y.

the market, with self-spraying dispensers, gives excellent results and leaves a smooth water repellent surface—and what is even more desirable is that it dries instantly.

Now I contacted two manufacturers—one in Bridgeport and one in Philadelphia—and neither is ready to sell, for industrial use, in bulk or gallon containers. Besides, I would prefer to use my own spray gun instead of the self-sprayer-can they supply.

One on these firms states that the solvent is not inflammable. Would you kindly advise where I could get this material in quarts or gallons, as I promise a waterproof job on my pictures and I can't afford high cost materials? This plastic finish is better than lacquer. Anything you can assist me with in securing this plastic spary material will be gratefully appreciated.—G.A.

Will try to find out where you can get this material in gallon containers.—ED.

Water Wash Booth Trouble

We notice in your July issue, in the "Letters from Readers," pages 49-50, "O.O.Co." is having trouble in cleaning over-sprayed paint from the baffles and exhaust tubes of their spray booths. Our product, "Boothcote," is used for this purpose in a great many plants. We are sending you several of our brochures describing "Boothcote" and, possibly you might send this company one of them.

We would also like the address of Mr. Beacham, whose article begins on page 37, as we are interested in his article on water-wash spray booths and compounds and we would like to send him one of our brochures and tell him of the experiences we have had with the use of our "Boothcote" in water-wash spray booths to catch the accumulation of over-sprayed paint so that the booths can be easily cleaned. —HARRIS SOAP DIVN. of H.F.P. CORP.

Information supplied.—ED.

Sea Grass for Rubbing

In June 1949 issue, page 96, we notice that "C. Wood Products Co." is looking for some Japanese Sea Grass for wiping wood filler If you will submit our name to these people we can supply them with a similar product that we are selling the woodworking trade today.—INDUSTRIAL FINISHING PRODUCTS, Brooklyn 8, N. Y.

Thank you. Name supplied.—ED.

Lacquer Repairs; Crack Filler

In the June, 1949 issue of INDUSTRIAL FINISHING, on pages 92 and 93, there appears an item entitled "Quick Lacquer Repairs." We are interested in this. If you can provide us with information regarding companies who manufacture such products, or in any other way instruct us so that we may get in contact with these companies, we shall greatly appreciate it.

In addition there also appeared on page 122, another interesting article under the title, "Crack Filler for Wood Finishers." Any information which you are in position to provide regarding possible suppliers of such materials will be greatly appreciated.—T. FURN. CO.

We are referring your first question to the author of the article, Joe Smith of Columbia, Mo.

Several concerns can supply crack fillers for finishers and refinishers; one is advertised on page 119 of July 1949 issue. —ED.

To Stop Bleeding Through

Some time ago I read a question on how to stop red from bleeding through white or ivory. My suggestion is to apply a coating of varnish and ground graphite. Use the best varnish you can get. Mix enough graphite in the varnish to give the varnish a solid graphite color.—CLAUDE M. HOPE.

Filler Rubbing Machine

We are under the impression that someone is building some kind of a filler rubbing machine. If our assumption is correct, we would be grateful if you would give us the name of this manufacturer. —S. M. MFG. CO.

Only thing we know of along this line is a portable Filler Padding Machine (rotating rubber pads slap the filler coating, thereby padding in part of it and wiping off the surplus.) We believe that a machine of this kind is made and sold by N. A. Strand Co., 5001 N. Wolcott Ave., Chicago, Ill.—ED.

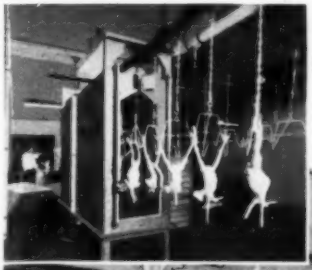
Color Chart Wanted

I would like to subscribe for INDUSTRIAL FINISHING Magazine. I also would like to know where I can obtain a color chart with the names of colors or finishes which I could show to my customers.—R. REFINISHING SHOP (Antiques, Furniture).

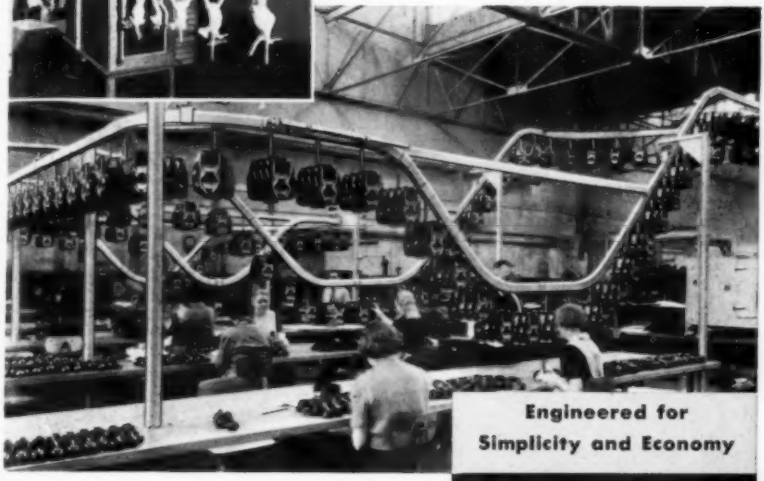
Write any of the manufacturers of finishing materials, whose advertisements you see in this magazine.—ED.

Can Help on Mahogany Finishing

Would you please let me know the name and address of D.E.Inc., on page 48, "Letters from Readers" section of July issue? . . . We have found that different finishing materials are also effective, and believe we might be of considerable help to the writer of this letter and would like to contact him.—RELIANCE VARNISH CO.



Turkeys or Telephones...



Engineered for Simplicity and Economy

***For handling efficiency and economy recommend* R-W Power Conveyors**

Efficient, economical handling and movement of materials means lower production costs. Today, in all kinds of plants, Richards-Wilcox Conveying Equipment is solving this handling problem to perfection. The extreme flexibility of R-W ZIG-ZAG Conveyors makes them readily adaptable to the most complex plant layout.

1880 • Over 69 Years • 1949

- Horizontal and vertical wheel units alternate in a continuous chain traveling through special steel tubing.
- Complete flexibility for installation in any plant. Easily installed, easily changed to conform to plant alterations.
- SAFE—all moving parts fully enclosed.
- Low first costs. Low power factor.
- Load capacity: Single suspension 65 lbs. per foot—double suspension 125 lbs. per foot.
- Standard horizontal or vertical curves—two-foot radius. (Stock load pendants including automatic turning units available.)

Richards-Wilcox Mfg. Co.

"A HANGER FOR ANY DOOR THAT SLIDES"

AURORA, ILLINOIS, U.S.A.

Branches: New York Chicago Boston Philadelphia Cleveland Cincinnati Washington, D. C. Indianapolis St. Louis New Orleans Des Moines Minneapolis Kansas City Los Angeles San Francisco Denver Seattle Detroit Rockford Pittsburgh

To Prevent Blisters in Bake-Finished Zinc

Our product is composed of both zinc die-cast pieces and steel. At present we run all of the pieces through the metal washer where the surfaces are cleaned and rustproofed. Next a prime coat is applied and baked for 45 minutes at 300°F. When cool we have to scuff sand the die-cast pieces to smooth small bubbles or blisters before spraying a top coat of enamel. The steel parts are not affected, therefore we do not sand these.

We wonder if you could suggest something which would eliminate the sanding and wiping-off operations on the die-cast zinc pieces?—N. M. Co.

The solution to your problem should be very simple. The cause of the blisters on the die-cast parts is hydrogen gas trapped in the pores of the metal. When the prime coat is baked, the baking heat forces this gas out and the result is bubbles or blisters.

I suggest that you increase the temperature of your dry-off oven which follows the metal washer in your production line. A temperature of 500° to 600°F. for a period of several minutes will drive the trapped gas from the pores of zinc die-cast parts before any finish is applied. Result: No blisters. It may be necessary to install fans to aid in cooling the heated parts before applying the prime coat, especially if the distance between the oven and the booth is comparatively short.—P.C.B.

Preparing Surface for Gold Leaf

We contemplate making several items of furniture in the Chinese motif. On some of the pieces we plan to use a gold or metal leaf decoration. We pride ourselves on good machine work and careful sanding, consquently the wood surfaces are very smooth. Now our question is, will it be necessary to prepare the wood surface in any way before we apply the gold or metal leaf?—J. B. Co.

Yes, you definitely will have to prepare the wood surface to receive gold or metal leaf. The information you submit is so vague that it is difficult to answer your question. In the first place you are talking about two different things when you mention gold or metal leaf. Surface preparation for genuine gold leaf is different from that for metal leaf or schlag metal.

For genuine gold leaf, four or five coats of glue size and whiting should be applied, allowing sufficient drying time between coats. Then the surface should be sanded and cleaned thoroughly. Next a coat of shellac is applied and after it dries, it is sanded and cleaned. Then a slow-drying gilder's oil size is applied. Next day, when this size has become sufficiently tacky, the gold leaf may be laid on.

For metal leaf or schlag metal you should rub on at least three coats of shellac to build up the surface. This may be done with a cheesecloth pad dipped into the shellac. As in French polishing, it is essential to keep the

4

TYPES OF SYNTHETIC FLAT FINISHES TO CONFORM TO YOUR NEEDS . . . POCKETBOOK

DRYING SCHEDULE

- **FULL RANGE OF SHEENS** . . . from dead flat to gloss
- **NO DULLING OR CLOUDY FLATTENING AGENTS** added
- **A BEAUTIFUL RUBBED EFFECT** . . . will rub clean and clear
- **WILL EITHER AIR OR FORCE DRY**
- **OUR SUPERIOR PROCESS IN CHEMICALLY TREATING RESINS DEVELOPS A FINISH SO SMOOTH . . . YOU CAN FEEL THE DIFFERENCE**

1 **PERLAC SATIN FINISH** . . . out of the dust in 5 to 7 minutes . . . one coat looks and rubs like two coats of lacquer . . . liquor proof . . . water proof . . . won't haze or sweat back.

2 **PERFEX SATIN FINISH** . . . quick set . . . quick dry . . . water proof . . . liquor proof . . . full smooth body . . . won't haze or sweat back.

3 **PERFECTION SYNTHETIC FLAT FINISH** . . . water proof . . . liquor proof . . . beautiful rubbed effect.

4 **PERFECTION QUICK DRY FLAT VARNISH** . . . beautiful . . . rubbed effect . . . or rubs well . . . smooth.

PERFECTION PAINT & COLOR COMPANY

715 E. Maryland St., Indianapolis 2, Indiana

Perfection SYNTHETIC FLAT FINISHES

WATER-PROOF LIQUOR-PROOF

pad in constant motion while it is in contact with the surface. It may be necessary to increase the number of coats to four or five to make a smooth, firm foundation surface for the metal leaf.

With rubbed-on coats it is not necessary to sand the surface before applying the gilder's oil, which is allowed to dry overnight until is is sufficiently tacky to receive the metal leaf.

It will be necessary to apply a spray coat of clear lacquer over the metal leaf to prevent it from discoloring. No protective coating is required for genuine gold leaf, unless it will be subjected to unusual wear or abrasive action.

Should you require additional information on mixing glue size and whiting for genuine gold leaf preparation, please advise and we will mail you the formula.—P.C.B.

Cleanliness in Finishing

By Rollin H. Wampler

IT IS impossible to get a clean job of finishing in a room where dirt and dust are always floating in the air and dropping onto freshly coated work. The atmosphere around many manufacturing plants is full of dirt and dust, and it is difficult to keep all of this dirt out of the finishing room. Complete air conditioning of the department, with a slight positive pressure inside, is the obvious and most effective solution; but this is costly and involves a major outlay of capital.

Lacking these facilities, there are other things that can be done to reduce the severity of the problem. Just plain good housekeeping is one of the best things that can be done to reduce the objectionable condition. Dust, allowed to accumulate on the floor, on window ledges, and in other places can be picked up by the slightest draft or by someone just walking past, and eventually some of it settles on any work in process.

Sweeping out the department every day and wetting down the floor with waste oil are helpful. Dusting down walls and ceilings with a dusting gun every month or so helps. Corners filled with odds and ends that are seldom used are dust catchers.

Overhead conveyor rails should be dusted down regularly to prevent the trolleys from dropping dirt onto the work. Ovens should be cleaned out regularly. Some finishers coat the insides of their ovens with non-drying oils to catch and hold any flying dust or dirt.

In so far as it is possible, operations that are a source of dust or dirt, such as dry sanding of undercoats, should be isolated from areas where finishes are applied. Blowing off accumulated dust or dirt from the work just before coating it—or better yet, going over it with a tack rag—will reduce the number of rejects due to dirty finishes.

The use of fast-setting finishes such as lacquer will make for a cleaner finish because the coating is wet for only a short time. Straining enamels prior to use will take out small lumps of pigment that have not been properly crushed and mixed; these would otherwise make the finish dirty.

Some enamels and flat lacquers will "seed out" and produce a dirty finish if they are stored in the full heat of the summer sun for some time.

One finisher reduced his dirt problem by simply observing the prevailing wind each day. Closing the proper windows kept dirt-laden air from the cabinet shop from settling in the finishing department. Simply keeping the door closed between the cabinet shop and finishing room helped considerably in one furniture plant.

DON'T BUY ANY CONVEYOR

. . . *until you have talked to a Palmer-Bee Engineer!*

- **Here's why: Palmer-Bee has had 45 years' experience in the conveyor field. As far back as 1910, we pioneered the design, manufacture and erection of both overhead and floor type conveyors for the progressive manufacture of automobiles.**
- **A few years later, after these installations had proven so satisfactory, we applied the same principles to other industries, such as stove, furniture, cabinet, refrigerator, washing machine, electric motor, vacuum cleaner and radio.**
- **All these installations have been uniformly satisfactory . . . floor space saved, production greatly increased, quality improved, better housekeeping effected . . . and unit costs substantially reduced.**
- **The wealth of experience our engineers have gained in solving the problems of such a variety of industries is invaluable to any manufacturer contemplating the installation of a conveyor system. That's why we say: DON'T BUY ANY CONVEYOR . . . until you have talked to a Palmer-Bee Engineer!**

ENGINEERS • MACHINISTS • STEEL FABRICATORS • ERECTORS

PALMER-BEE CO. CONVEYORS STEEL FABRICATORS DETROIT ENGINEERS

PALMER-BEE *Company*

DETROIT 12, MICHIGAN

Machine Tool Finish

A new and special low priced coating has been developed for machine tool finishes by the Maas & Waldstein Co., Boston, Chicago, Los Angeles, and Newark, manufacturer of industrial finishes. This new tool finish, known as Dulac Dull Black Lacquer Enamel L-433, is made especially for wrenches and other cast iron, steel or aluminum machine tools.

Dulac Dull Black Lacquer Enamel L-433 produces an extremely tough coating that hides surface flaws and imperfections in the metal. It is put on by either the spray or dip methods, and air dries.

Tough, Flexible Color Coat

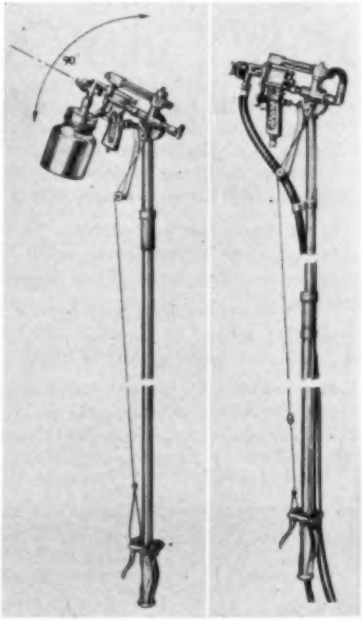
A new synthetic finishing material, "Fastuff," that air dries and sets to a tough, flexible, tack-free film with the speed of a lacquer, has been developed in the laboratory of United Lacquer Mfg. Corp., Linden, N.J.

This same air-drying material can be baked in a few minutes at 250 or 300° F. and is not affected appreciably by over-baking. Fastuff has excellent color and gloss retention in high humidity or when subjected to steam vapors. It has resistance to kitchen fats, grease and vinegar. It provides flexibility plus a hard surface. The film polishes beautifully either by machine or by hand.

When air dried, Fastuff coated surfaces usually can be handled and stacked within 15 minutes and packed in three to four hours. It is available in white, black and all other colors, for wood and metal.

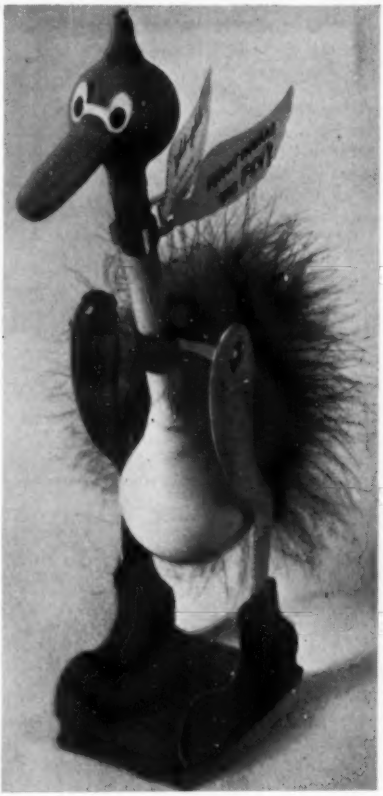
Spray Gun Extension

An all-angle gun extension has been developed by the Sharpe Mfg. Co., 1224 Wall St., Los Angeles 15, Calif., for paint spraying use industrially and commercially. These applications

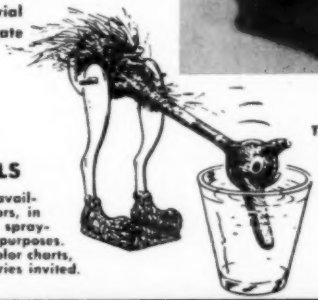


These extensions can be used in connection with cup guns or pressure containers.

"Duck Turns 'Guinea Pig' and proves a point for *Flock!*"



The bill is plastic, the head and body are glass and the overshoes are metal—yet to all three materials, Flock "takes" as ducks take to water! Flock gives the overall effect one of realism, high color—and functionally performs the desired action. The flock-coated head retains the right amount of moisture necessary for evaporation. Without going into technical details, it is important for its fascinating operation that the duck's head be wet — continuously evaporate—cause temperature differences—and make the duck go into its bobbing act! Claremont Flock is a proven medium whether for novelty or industrial purposes. Investigate its possibilities.



GLUB-GLUB
The Bobbing "Water-drinking" Duck

Processed by
Ver-Mar Products Corp.
Detroit, Michigan
for
The House of Plate', Inc.

WRITE FOR FLOCK DETAILS

Claremont Flock is available in bulk, in colors, in quantity for special spraying — on finishing purposes. Write for samples, color charts, prices, details. Inquiries invited.

The Country's Largest Manufacturer of FLOCK

CLAREMONT WASTE MFG. CO.
1935 ELM STREET CLAREMONT, N. H.

apply to factory maintainance or contractors' spraying in particular. The gun extension is adjustable from 4 to 8-ft. in length.

A cup or pressure feed gun can be used with trigger control. These guns can be placed at an adjustable angle from the horizontal to vertical position. Practically all models of paint spray guns can be mounted. Spring clips hold the hose to the pole which is light aluminum and dural material with balanced construction.

Electric "Flameless Torch" Removes Paint

Kinetic Laboratories, 1720 Sansom St., Philadelphia 3, Pa., announces its new Model 400-W "Thermal-Jet" Electric Flameless "Heat-Gun." The manufacturer states that the "Thermal-Jet" Flameless Torch, which projects up to 1200° F. of radiant heat from its orifice, can be used for practically all of the usual applications of a gasoline blow torch, except for direct flame brazing or soldering. In fact, the absence of an open flame permits the use of "Thermal-Jet" in some high heat applications where a flame or liquid fuel would be dangerous if not impossible.

Produces heat of blow torch without flame.

The container is securely mounted to a pistol grip wooden handle which, together with the fins, acts as a safety rest for the gun when not in use. Weight is about 2-lbs. "Thermal-Jet" operates on 115-volt A.C. and uses 400 watts. It can also be used on direct current by using the proper style D.C. plug. Construction is shockproof and Underwriter Laboratories standards are used in both wiring and insulation.

"Thermal-Jet" is used the same as a gasoline blow torch and for the same purposes. The heat applied to a surface is controlled by the distance the heat gun is held from the work. It can be used for "burning" varnish, enamel, paint, etc., from wood, metal or canvas, without scorching or otherwise marring the surface. It is stated that in contrast to open flame burning, radiant heat from the "Thermal-Jet" penetrates the pigment and quickly reduces it to an ash which is readily scraped off.

New "Safety" Lacquer Thinner

The Elston-Nichols Co., 7 W. Madison St., Chicago 2, Ill., announces that K-105, its patented "Safety Thinner," has been rated by Underwriters' Laboratories, sponsored by the National Board of Fire Underwriters.

"One of the biggest problems of finishers has always been fire hazard," stated Al Griffin, Elston-Nichols research engineer. "Many users of lacquer thinner have been restricted by

FLOCK

Short-cut fibres of all types used to produce effects of suede, felt, velvet, mohair, velour, carpet on any surface in an economical manner.

Let our 25 years experience be your guide to quality results at lowest possible cost.

Rayon Processing Co. of R. I., Inc.

PIONEER PRODUCERS OF SURFACE COATING FLOCKS

55 MOSHASSUCK STREET **PAWTUCKET, R. I.**

POLLAK PAINT CO.
715 Main St.
Buffalo, N. Y.

LAMBERT-NEW ENGLAND CO.
79 Sudbury St.
Boston, Mass.

H. R. MEININGER CO.
409 16th St.
Denver, Colo.

J. GORDON SMITH CO.
3901 Main St.
Dallas, Texas

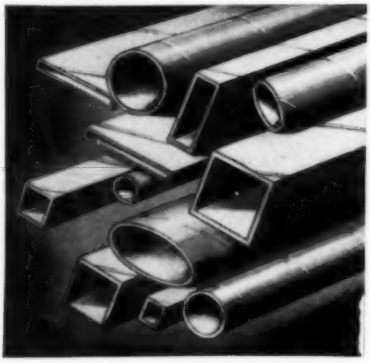
their fire departments to keep as little as five gallons on hand at a time. K-105 lacquer thinner, with a flash point of 75.2° F. closed cup test), meets the municipal code requirements of most cities for full drum storage, and reduces fire insurance rates sharply."

Robert G. Tobey, sales manager of the Chicago firm, claims that K-105 lacquer thinner is not only more convenient, safer, and easier to use, but also costs less because of the elimination of packaging and delivery costs for small quantities. K-105 is a slow-drying product to eliminate "blushing," is water-white so it will not discolor clear lacquers, has a mild odor, and provides flat flow-out.

The Elston-Nichols Co. manufactures lacquer thinners exclusively.

Many Shaped Asbestos Tubes

While originally designed as a heat-resisting base for electric coils and bobbins, the new asbestos tube manufactured by Precision Paper Tube Co., 2045 W. Charleston St., Chicago 47, Ill., has a wide range of potential uses and posibilities. Unaffected by high temperatures, the tube can be used for insulation in such units as electric heaters, thermal heating devices, for insulating rods, etc., for both heat and as a dielectric. The tubes can be made in any length, with wall thicknesses from .010-in. up.



They are resistant to heat and electricity.

Metal Cleaning Compound

Quaker Formula 100, synergized synthetic cleaner, developed and sold by Quaker Chemical Products Corp., Conshohocken, Penna., is successful for the removal of mineral oil type soils.

This powder type product is used at concentrations of two to three ounces per gallon with water as a tank type cleaner in the temperature range of 180°F. to boiling, and will prepare metal surfaces for bonderizing, electroplating, painting, and other critical operations with immersion times of less than two minutes in the cleaning cycle. It can be applied to the cleaning of steel, brass, die casting, and aluminum.

New Coating Retards Fire

The latest thing in fire protection is a paint that creates an inch-thick insulating marshmallow-like substance when exposed to flames or extreme heat. The new paint, unlike earlier fire-retardant coatings, does not flake, has good resistance to moisture and adheres well to most surfaces. Developed on an experimental basis by The Sherwin-Williams Co., Cleveland, Ohio, it is designed for indoor uses—primarily basement ceilings—and for aircraft interior finishes. Its use as an undercoater for house paint is hoped for but is still in the realm of research.

The new coating, a powder thinned with water, resembles clear varnish in appearance. Once applied it may

BARRETT CENTRIFUGALS

The Barrett Centrifugal Enameler

FILWHIRL ENAMELERS—For Coating, Japanning, Enameling—Articles.

TYPHOON WASHERS — For Washing Metal Parts, Forms, etc.

CYCLONE DRYERS—For Drying Small Metal Parts, Forms, etc.

WHIZO GALVANIZER—For Throwing Off Excess Molten Metal. Used for Tinning or Galvanizing Small Articles.

DISPIN RUSTPROOF—Transparent Protector, Oiling and Slushing.

HYDROSTATIC IMPREGNATORS—For Processing Wire Coils, Paper Tubes, Fabric, etc.

OIL EXTRACTORS—Oil from Chips and Parts —Forms, etc. Liquids from Solids.

THE LEON J. BARRETT COMPANY

Designers and Builders of Centrifugal Machinery

1703 GRAFTON ROAD WORCESTER 1, MASS.

BOOKS On Finishing Available

"MODERN ORGANIC FINISHES—Their Application to Industrial Products" (452 pages) New	$8.50
"CHEMICAL FORMULARY" (Vol. VIII)	7.00
"FINISHING METAL PRODUCTS"—2nd ed. (352 pages)	4.00
"PRACTICAL FURNITURE FINISHING" (112 pages)	1.25
"FURNITURE FINISHING" (543 pages)	4.00
"SPRAY PAINTING"—Industrial and Commercial (169 pages)	2.00
"THE MIXING OF COLORS AND PAINTS" (292 Pages)	2.50
"WOOD FINISHING" (361 pages)	2.50
"NATIONAL PAINT DICTIONARY" (704 pages)	7.50
"MODERN POLISHES AND SPECIALTIES" (313 Pages)	7.50
"PRACTICAL COLOR SIMPLIFIED" (128 Pages)	5.00
"GRAINING"—Ancient and Modern (224 Pages)	4.00

Cash Must Accompany Orders

INDUSTRIAL FINISHING

1142 NORTH MERIDIAN STREET INDIANAPOLIS 4, INDIANA

be covered with a coating of conventional paint to provide color, if desired, without endangering its fire-retardant qualities.

In one laboratory test, a wooden panel, coated with the new product, was subjected to the flames of a blow-torch for 25 minutes. The intense heat of the flame caused the coating to swell into a spongey mass an inch to 1½-in. thick. After the test, removal of the insulating mass revealed that the wood had not even been charred.

Temporarily known as "Coating X", the new fire-retardant is available only for experimental purposes at the present. The manufacturer prefers to explore further uses and conduct more exhaustive test before making it commercially available.

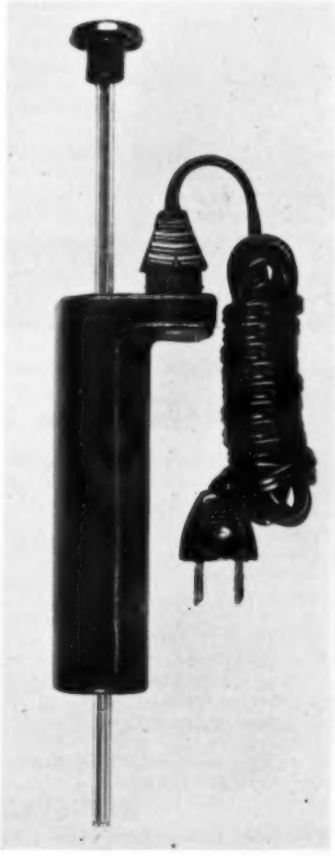
"Strip-Master" Removes Paint

The remover, "Strip-Master", has a solvent action on most paints, enamels, lacquers and varnished surfaces; it softens the finish and makes it water rinsable. All brushes, steel-wool, sponges or cloths will rinse easily in water for continued use. The material will not burn nor will it harm the wood or metal surfaces from which any finish is being removed. It isn't "messy" to use. A product of the Holland American Co., Inc., 8124 Hoyne Ave., Chicago 20, Ill.

Measures Thickness of Any Paint Coating

The Lea Mfg. Co., Waterbury, Conn., manufacturer of polishing, buffing and burring compounds and other finishing supplies, announces the Lea Lectromag (Lipson Patent Pending), an instrument for measuring the thickness of non-magnetic coatings on carbon steel or iron.

The Lectromag is a simple durable instrument capable of measuring coatings from 0.0002 to 0.008-in. with a plus or minus 10% accuracy for thicknesses of 0.001-in. and over and a plus or minus 15% accuracy for thicknesses under 0.001-in." Its small size, compactness and portability make it useful in plants where articles to be



Measures thickness of paint on carbon s

Mac's FASHION
NON-WIPING & UNIFORMING OIL STAINS

Applied by spraying, brushing or dipping—require no wiping—allow five hours to dry.

Made in all shades of Mahogany, Walnut, Oak and Maple, and for use on all kinds of wood.

Can be reduced with MAC'S STAIN SOLVENT or MAC'S TURPS-NO if lighter shades are desired.

Write for samples and descriptive folder.

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

7430 STATE ROAD **PHILADELPHIA 36, PA.**

I. C. D. FORMULA NINE
NON-INFLAMMABLE
« *wax free* REMOVER »

for paint, varnish, lacquer, baked enamel, adhesives

EASY TO APPLY—NO AFTER CLEANING

I. C. D. FORMULA 9 is the standard of safety and quality . . can be sprayed or brushed . . doesn't raise grain nor discolor . . quickly removes all kinds of finishes and coatings from any surface or material . . costs less to use . . saves time, labor and material.

BRUSH CLEANER I. C. D.— non-inflammable brush cleaner works fast . . does not injure nor loosen the bristles. Easy to use . . leaves the bristles clean as a whistle. Order a gallon can and convince yourself.

ORDER TRIAL GALLON AT DRUM PRICE

INDUSTRIAL CHEMICAL DEVELOPMENT CORP.

347 MADISON AVE. NEW YORK 17, N. Y.

checked are usually carried to the laboratory. With this instrument, thickness measurements can be made right on the spot.

Essentially, the Lectromag consists of 1) a solenoid about 5-in. long, encased in a holder cast of special plastic compound; 2) a 3/16-in. diameter glass tube with indicating scale; 3) soft iron core with marker within this tube; 4) suitable leads and connections.

Standard Machinery Gray Enamels

Recognizing the great variations in machinery gray enamels, Brooklyn Varnish Mfg. Co., Inc., 50 Jay St., Brooklyn 1, N. Y., has developed four popular gray machinery enamels which are designed to eliminate the guesswork in gray colors. Known as Tuf-On Standard Machinery Gray Enamels, the colors are based on spectrophotometric data and conform to ASA Mechnical Standards Committee colors. The coatings are designated by Munsell notations, and are intended to help standardize equipment finish colors. They dry in about two hours, and are highly chemical resistant. Samples and data available upon request, with no obligation.

Alfco Fire-Guns

American-LaFrance-Foamite Corp., Elmira, N.Y., announces a new tinning process which doubles the life expectancy of the Alfco Fire-Gun (vaporizing liquid, pump type) fire extinguisher by protecting against internal corrosion. It has been inspected and approved by both Underwriters' and Factory Mutual Laboratories.

Two forms of corrosion have been known to attack extinguishers of this type. Chemical acids may be formed if moisture enters the unit, and the presence of dissimilar metals lends itself to an electrolytic action which leaches the zinc out of exposed brass surfaces.

Tin plating eliminates both forms of corrosion. Tin resists acid attack, minimizing the danger from chemical reactions within the Fire-Gun. The elimination of dissimilar metal surfaces means that electrolytic action will not take place. It is estimated that these advantages of tin plating will more than double the life of the extinguisher.

Snap-On Pouring Spout

A snap-on pouring spout adjustable to almost any size metal liquid pouring container, drum or glass jug is announced by Abbott Industries Co., 170 Broadway, New York 7, N.Y. It is made from precoated colored metal stock as well as aluminum, with a patented adjustable tab section in the area which fits over the neck opening

Snaps on the neck of almost any container.

of a container. This tab section is adjustable to the extent that by pushing it backward or forward it can be made to snap fit on almost any neck or mouth opening (1 to 1¾-in. diameter) of liquid containers.

When Detroit Non-Inflammable "TAC" RAGS Cost NO More!

*AN EXCLUSIVE FEATURE, PAT. PENDING.

★

. . . for fast perfect finishes without rejects!

Detroit Handy 'Tac' Rags in your finishing department insure you a mirror-like finish without the risk of a fire . . . they remain soft and tacky indefinitely.

The Standard of Quality for 15 Years

DETRO MFG. & SALES CO., INC.

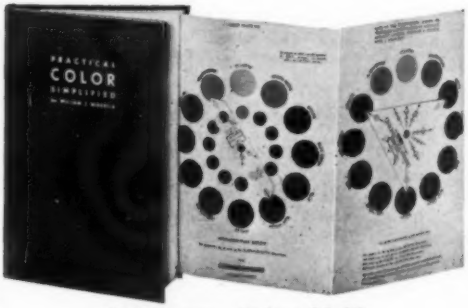
3429 Wesley St., Culver City, Calif.

SOLD BY LEADING PAINT DEALERS
USED BY THE COUNTRY'S FOREMOST MANUFACTURERS

FREE — Write Today . . .

for information telling how Detroit "TAC" Rags can save money in your finishing dept.

PRACTICAL COLOR SIMPLIFIED



A Handbook for everyone interested in or using Color. Contains many Tables, Color Plates and the Miskella Patented Color Chart. Just revised and reissued in a Limited Edition after many urgent requests from among 5000 users of previous editions in all parts of the world. Answers those vexing color questions which come up every day—the little technical puzzlers that bother. Contains a wealth of valuable information written in understandable form so all may understand.

The Patented Miskella Color Chart enables you to mechanically select colors, mix shades and tints, harmonize three or more colors and avoid color discords. Securely fastened in back of book. Colors are hand applied with lacquer on cloth not easily damaged by frequent handling. On it are mounted, pivoted celluloid arrow and triangle. This Chart is worth alone the price of the entire book!

128 Pages. Price $5.00

INDUSTRIAL FINISHING, 1142 N. Meridian, Indianapolis 4, Ind.

Hammer-Namel

The Industrial Research Division of Brooklyn Varnish Mfg. Co., Inc., 50 Jay St., Brooklyn 1, N.Y., announces its new hammer-effect finish, called Tuf-On Hammer-Namel. Hammer-Namel is applied in a one coat application, to yield a smooth, lustrous hammer-tone, impervious to marring or abrasion. It is excellent for disguishing imperfections of metal surfaces, and it doesn't show dust. Available in chrome and colors, as desired, Hammer-Namel bakes in 20 minutes at 300° F. Samples and technical data are free for the asking.

Chemical-Resistant Coating System

Munray Products, Inc., 12400 Crossburn Ave., Cleveland 11, Ohio, sales division of the Poly-Cyclo Products Co., announces a new selective coating system, Cyclon Series "WPS", for the protection of all types of metals that are subjected to extreme corrosive conditions, particularly, where direct immersion in the corrosive medium is a necessary applicational factor.

Essentially formulated from basic vinyl plastic resins and, consequently, unaffected by acids, alkalies, their salts, petroleum products, alcohols, water and many other reagents, this new Cyclon Coating adheres tenaciously to all types of clean metallic surfaces.

Adhesion is secured by chemical inner-reaction of the Cyclon "WPS" Primer with the metal surface which unites the two integrally. The bond is accomplished chemically and is not dependent upon mechanically roughening of metal surfaces. The Cyclon Primer's resin impregnated, corrosion-inhibiting pigments also develop a tough, impermeable film completely preventing underfilm metal deterioration. The bond strength is excellent even with such difficult materials as zinc, lead, cadmium, aluminum, nickel, copper, stainless steel, galvanized metals, magnesium, etc.

Completing the Cyclon Selective Coating System a Tie Coat and a final Top Coat of the "WPS" formulations are used. Just as its name implies the Cyclon Tie Coat has been specifically formulated to unite the "WPS" Primer with the Top Coating. However, it in itself, has good chemical resistance and when used over the Cyclon Primer it is recommended for general maintenance applications where atmospheric corrosion is a problem, or where metal protection is necessary under immersion in water or mild reagents.

Cyclon "WPS" Top Coat is applied as the final sealing, anti-corrosion protective coating. It is blended and compounded of the most inert thermoplastic resins with chemically resistant virgin pigments and other inactive ingredients selectively determined and combined by research to offer industry a metal protective coating of great chemical resistance. Coupled with its unique resistivity to chemical attack are all the recognized merits desired in a metal coating—adhesion, flexibility over a wide temperature range, impermeability, continuity, excellent dielectric properties, toughness and permanency.

Non-Corrosive Pumps

A non-corrosive "flex-i-liner" pump in which the transferred liquid or gas never touches any of the metal parts has been developed by the Vanton Pump Corp., Empire State Building, New York 1, N.Y. The unique design of the pump makes it particularly suitable for handling corrosive liquids such as acids, alkalis, industrial alcohols, as well as many corrosive gases.

The construction of the pump is

RONCI SPEEDIP WHIRL ENAMELER

Made In Two Sizes, R-100 and R-200 Capacity 312-cu.in. and 1206-cu.in.

IDEAL FOR LACQUERING AND ENAMELING SMALL PARTS UP TO 7-IN. IN LENGTH

CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to 75-lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

PROMPT DELIVERIES

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

2 ATLANTIC BOULEVARD CENTREDALE 11, R. I.

SLASH MAINTENANCE COSTS!

by using

PLASCOTE NO. 1

The new peelable plastic boothcoating.

- Actual using reports prove Plascote No. 1 will cut booth cleaning time in half.
- It is applied quickly and easily by use of ordinary paint spray equipment, or by brushing.
- Shipped ready to apply, no pre-mixing necessary.
- Inflammable over-sprayed paints may be peeled from the spray booth walls in large sheets.
- Economical to use due to extensive coverage per gallon.

TEST SAMPLE OFFER:

Order 5 gallons, at the drum price of $1.95 gallon.

CHEMCO PRODUCTS COMPANY, Inc.

7740 WEST 47TH STREET LYONS, ILLINOIS

such that the fluid flows on the outside of the "flex-i-liner" and on the inside of the body block. The "flex-i-liner" material can be specified in either a pure gum rubber or a synthetic, depending on the particular application, while the body block can be obtained in plastic or a hard rubber. An eccentric rotor mounted on a ball bearing rides inside and activates the "flex-i-liner". The "squeegee" is the basis of the pump operation.

Clear Rust-Proofing Sealer

A clear primer-sealer coating material that rustproofs iron and steel surfaces is called XIM Flash Bond. It can be applied by spraying, dipping or roller coating; has excellent adherence to metal and is a dependable primer coat. This material is a product of H. Forsberg Co., 5103 Lakeside Ave., Cleveland 14, Ohio.

Clear Sealer For Fibre

Tuf-On No. 82 is a clear coating for vulcanized fiber products. It fills the pores of the fiber, inhibits absorption of fats, oils and greases, and acts as a sealer against perspiration and moisture.

Based on vinyl resins No. 82 is tough and flexible and may be applied equally well as a protective coating for leather, cork and paper products.

Technical data and samples are available free from Brooklyn Varnish Mfg. Co., 50 Jay St., Brooklyn 1, N.Y.

Heating Liquid Contents of Tanks

A new type of heating and cooling coil for plating, degreasing, pickling and anodizing tanks is announced by The Udylite Corp., Detroit 11, Mich.

The patented design of embossed metal plates permanently welded together has several important merits such as: Higher BTU capacity per square foot of area, rapid even heat transfer, small coil space, easy installation, low maintenance cost and lower initial cost. Either heating or cooling can be done with these new coils which fit practically every size and design of tank.

Because of its generous passage for the heating or cooling agent, and its high ratio of prime surface, the Udylite Platecoil develops a high rate of heat transfer. For this reason, less plate area is required than with conventional pipe coil.

Label Adhesive and Clear Label Overcoater

The Merchants Chemical Co., Elm Court, Stamford, Conn., announces two new products, "Dyna-Clad No. 55 Label Adhesive", and "Dyna-Clad No. 58 Clear Overcoater", which form part of a complete labeling system. This 2-way system insures the labeled product against wash-off from the elements, loss from temperature changes, attack from acid fumes, etc. It further insures legibility of text at all times and under all conditions.

Quick-Change Handpieces for Flexible Shaft Tools

Flexible shaft machines, which are multiple purpose tools for grinding, sanding, wire brushing, polishing, deburring and many other operations, are now made more efficient and more practical with the addition of a new invention, the Wyco Quick-Change handpiece coupling.

No longer is it necessary to change handpieces by screwing them on and off. With the quick-change feature, quick, snap-on-or-off changes are made from a straight handpiece to

Clean as a Whistle...

...the air you breathe, that is

when you wear a Dupor No. 4 respirator. Keeps dust, fumes, paint spray out. Gives double filter protection. You get controlled breathing through patented Dupor valves. Panorama vision eliminates blind spots, allows for use of glasses or goggles. Order today from . . .

H. S. COVER, SOUTH BEND, INDIANA

COVER'S GAS-TIGHT, FOG-PROOF GOGGLES . . . . $1.65 pp.

DUPOR

NO. 4

Sample Sent

$1.65 pp

Your Signal! **9-8-7-0**

CLEAR METAL LACQUER

For

silver, cadmium, zinc, copper, brass, aluminum.

OUTSTANDING

1. Adhesion to metal surfaces
2. Resistance to sulfur tarnish
3. Resistance to oxidation
4. Resistance to perspiration
5. Resistance to abrasion

Pale in color. Takes 100-200% reduction. Dries under 15 minutes.
A premium product — priced at ordinary lacquer levels.

THE VARNISH PRODUCTS COMPANY

5206 HARVARD AVENUE

CLEVELAND, OHIO

How to improve

METAL PRODUCTS

through better finishes

Here is a book that answers all the questions on finishing metal products and shows the methods, techniques, and cost factors in producing them.

Just Published

FINISHING METAL PRODUCTS

New Second Edition describes all recent developments in this field.

By HERBERT R. SIMONDS and ADOLPH BRIGMAN, Consulting Engineers. 352 *pages*, 5x8, 135 *illustrations*, $4.00.

A COMPLETE PRACTICAL MANUAL covering usual types of finishing—galvanizing, polishing, plating, lacquering, painting. Also discusses fully such subjects as use of color and production and use of prefinished materials.

COVERS FINISHING from a business and sales standpoint. Deals with methods that improve results and reduce costs. Helps you determine types of finish with greatest sales appeal.

EXPLAINS SHOP TECHNIQUES. Tells how to reduce polishing and buffing costs. Gives techniques for cadmium plating, chromium plating, spray coating. Tells how to use enamels and lacquers in metal parts production.

This up-to-date, handy manual should be at the finger-tips of plant managers, superintendents and foremen. Send your remittance today to

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

an angle head, or from a grinder to a sander and then to a buffer or wire brush wheel without loss of time and with complete safety to the operator.

A new illustrated brochure will be sent on request addressed to manufacturer, Wyzenbeek, & Staff, Inc., 828 W. Hubbard St., Chicago 22, Ill.

New Recording Viscometer

The Norcross Recording Viscometer measures viscosity of all solutions at atmospheric pressure and records results on a chart on a 24-hour basis.

This recording instrument can be furnished for either manual or automatic control of viscosity. A high and low viscosity alarm system is incorporated in all models, to give warning if the viscosity exceeds or falls below predetermined maximum and minimum values.

The device consists of two main assemblies, the recorder and the measuring element. The recorder can be mounted locally or at any remote location. The viscometer operates on 110-volt circuit.

Bulletin V-1000-A, describing the instrument in detail, will be mailed on request to Norcross Corp., Newton, Mass.

Automatic Small Parts Cleaning Machine

The L & R Mfg. Co., Arlington, N. J., announces its first completely Automatic Small Parts Cleaning Machine. Aptly called "The equipment that works with you, not by you", this machine is furnished with a complete array of baskets, dividers and basket inserts, as well as with a quantity of L & R cleaning and rinsing solutions, so that the equipment can be put to work immediately upon its receipt.

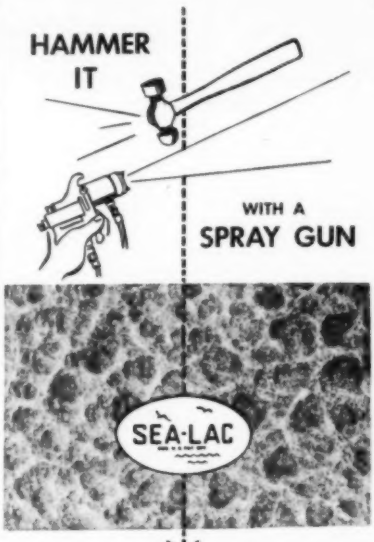
To operate the L & R Automatic, simply place the parts to be cleaned in the most suitable basket, or subdivision in the basket, snap the basket on the motor shaft, and then press the starter button. The equipment is fully automatic through the cleaner in the first jar and through the rinses in the second and third jars, and in the drying chamber, which is the fourth and last stop in the machine. A complete cleaning cycle is 12 minutes. This span was determined as the correct amount of time required to turn out results that would be satisfactory to the most painstaking operator, and to meet the most rigid specifications.

Flame Failure Safeguard

For Flame Failure Protection of commercial and industrial oil burning equipment, Combustion Control Corp., 77 Broadway, Cambridge 42, Mass., introduces Fireye Flame Failure Safeguard Type F18T2. Fireye provides operating flame failure protection for manually ignited oil burners, air heaters, ovens, kilns, etc.—and is used with programming controls to protect automatically ignited oil burner installations. On existing installations, this highly efficient safeguard may be readily substituted for slower-acting thermally responsive switches to give increased flame failure protection. The control is approved by all insurance laboratories.

Portable Paint Mixer

A unique belt-type portable industrial mixer manufactured by the United Electric Motor Co., 178 Centre St., New York 13, N.Y., was purposely designed so that its motor hangs on the outside of the mixing tank, out of the path of harmful mixing fumes and spray. The entire unit is always



POLYTONE

ONE-COAT
HAMMERED METAL
FINISH

Polytone does a remarkable job of simulating hammered metal. Spray and bake—one coat does the trick. Adheres excellently. Write for sample in any of these colors: silver, blue, green, red, orange, maroon, brown, grey.

DURALAC CHEMICAL CORPORATION
84 LISTER AVENUE NEWARK 5, N. J.

GLOBE BRANDS

BRONZE POWDERS...
all shades and grades
for various purposes

•

ALUMINUM POWDERS AND PASTES

•

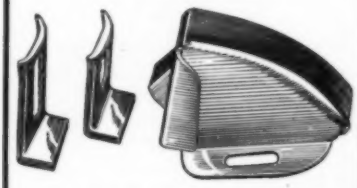
GOLD, SILVER, COMPOSITION AND ALUMINUM LEAF

B. F. DRAKENFELD & CO., INC.
45-47 Park Place New York 7, N. Y.

Your partner in Solving Bronze Powder Problems

Drakenfeld

SNUG TITE
SPRING CATCH



The answer to your cabinet door holding problem.

Requires 50 times as much effort to open it as to close it. The perfect catch for all types of cabinets. Prices furnished upon request.

Distributed by

STAR CHEMICAL CO., Inc.

Everything in the Wood Finishing Line

4500 W. Cermak Rd.
CHICAGO 23, ILL.

in perfect balance because the weight of both mixer and motor is carried below the center of gravity, requiring little or no pressure on the clamp to hold the unit on the edge of tank or drum. This arrangement also removes the possibility of oil or grease dripping from motor to mixture.

Called the Marvel Mixer, it is described as ideal for small or medium sized plants where production schedules call for more than one mixing job, each one of which may require a different mixing speed.

Dust Free Tester

Henry Zuhr, Inc., 187 Lafayette St., New York 13, N.Y., manufacturer of finish testing equipment, announces the availability of a device for determining the drying time of paints, varnishes, etc.

A Dust-Free Tester has been designed and built, utilizing standard Multifex as the "dust" medium, by the deposit of a thin uniform layer of standard Multifex in a well-defined pattern strip across the film being tested. The deposit is made at regular intervals over the film until the coating is dry. The dust-free time is taken at the point at which the Multifex no longer adheres to the film.

Paint Primer Resists Rust

A rust-inhibitive paint primer and finish coat called Totrust is announced by The Wilbur & Williams Co., Boston 15, Mass.

Upon application this material gets into the rusted pits to stop rust at its source and control further corrosion. Painting over damp surfaces with this primer forces moisture to the surface through its capillary action.

It is said to cover from 800 to 1000-sq. ft. per gallon and is available in red, black, olive green, gray, zinc chromate and aluminum.

If you have metal to be painted, we suggest these

7

BLACK COATINGS of Unmatched BLACKNESS

DURAPRIME
A remarkable metal primer coat, exceptionally durable. Takes most any kind of finish coat or is a good finish itself. Dries in 8-10 hours, forming a tough, durable, glossy, non-bleeding finish with outstanding weathering qualities.

SYNTHA-JAP
An excellent synthetic black surprisingly low in cost. In 30 competitive tests over a two year period it ranked first. Dries in 4-6 hours. A permanent coat; heat, weather, and moisture resisting.

VELVASHEEN
A jet black coating that dries with an egg-shell finish in 3-4 hours. You can use it straight or reduce it 25 to 50%. Dips, sprays or brushes. It has reasonably good outside durability.

SABLE-COTE
A gloss black for general purpose use on metal. A slower drying, but better durability than Jiffy-Black. Dries in approximately three hours. You can thin it approximately 25%.

JIFFY-BLACK
A speedy black coating, giving an intensely hard and glossy finish. Not a lacquer, it dries almost as rapidly—and costs less than half as much. For tool and metal specialty manufacturers and operations where quick drying is imperative.

CARBO-GRAPH
An outdoor paint for touch-up or complete coating. Excellent wearing quality at a modest price. Slow drying 12-16 hours, but it stays where you put it.

BLACK-JAC
A dull finish flat black coating at a modest price. It air-dries in half an hour. Will reduce 25%. Works equally well as a dip, brush or spray.

FREE SAMPLE of course!

THE JAMESTOWN PAINT & VARNISH CO.
JAMESTOWN, PA.

BLACK COATING HEADQUARTERS
INDUSTRIAL FINISHES SINCE 1885

Stille-Young

LACQUERS
ENAMELS
STAINS
FILLERS
PAINTS

For Highest Quality Finishes
Beauty and Durability

★

STILLE-YOUNG

Manufacturers

2752 N. CLYBOURN AVE. · CHICAGO 14

Telephone—Lincoln 9-4050

FACTORY—NORTH CHICAGO, ILL.

Use

Crystal

TACK RAG

BEFORE YOU SPRAY

Will Not Generate Heat
Nor Smoke When Stored
in a Warm Place

Always Soft and "Tacky"

Speed Up Your FINISHING PRODUCTION LINE with this Soft Tacky Cloth

BCP TACKY WIPERS

Available in GROSS LOTS thru PAINT DEALERS or from the Processor

Industrial Size 18 x 36
Spontaneous Combustion Proof
Exclusively Processed by

BAUGHN CHEMICAL PRODUCTS CO.

7027 North Ravenswood Ave. . . . Chicago 26, U.S.A.

Selecting Production Spray Guns

WHEN SELECTING and buying spray equipment you should know from past experience that it is useless to purchase cheap equipment or "something that is just as good". A poor spray gun can only produce a poor finish and *it's the finish that sells your product.*

I would like to offer the following suggestions before you select or purchase your next spray gun: Look at several makes of spray guns; handle them yourself. Don't buy just because the salesman is a good talker—or because you especially like him. Take the gun in your hand. Be sure it is not "nose heavy". If it is, your operator will have to grip the gun a little tighter all the time he uses it. Result: slower work due to hand and arm fatigue, and a poor finish because gripping the gun does not permit that easy efficient rhythm of movement—and the finish suffers.

Hold the spray gun in an easy natural position. Does the gun nozzle naturally point toward the object to be painted, or do you have to tilt your wrist a little for the nozzle to point at the object? The tilt of the wrist also contributes to hand and arm fatigue—and to a poor finish. Does the finger-rest bite into your finger?

Telephone a few jobbers of the company whose gun you are looking at and ask them if they sell many nozzles and needles. If they do, perhaps you don't want that gun. It shows excessive wear and a needle that does not have free floating action; the needle is probably dragging on the nozzle, permitting the paint to pass on the side that is not dragging; this results in a heavy flow of paint on one side of the nozzle which does not enter the atomizing air stream dead center

Thus the spray pattern can only be pear-shaped.

Next, pull back the trigger. Does it pull easily at the start and become harder to pull the farther it is pulled back? This will be tiring for the operator; the trigger should pull evenly all the way. And lastly, connect the gun to your production line; point the nozzle at a flat panel and snap the trigger with the atomizing air set at 20-lbs. Note the shape of the fan pattern. Raise the atomizing pressure to 50-lbs. and snap the trigger again. Then raise the pressure to 60 or 80-lbs. and snap the trigger.

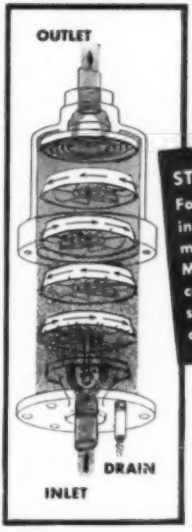
Check the results of all fan patterns at different pressures. They all should be the same shape. If higher pressures cause heavy ends and a light center in a fan pattern, the nozzle is going to be very touchy for your operator to adjust. And if he has to waste time trying to adjust his atomizing pressure to obtain a perfect fan pattern, it will react upon his temper and more rejects can be expected. It is your company's money you are spending, not only for the spray gun but also for the amount of overspray, labor for stripping and repainting, and the high price of stripping compounds.

I would like to quote a friend of mine who, I believe, is the greatest authority on spray equipment—a man who has studied and designed practical spray equipment for 25 years or more. His motto is "simplicity pays". He says: "If a ten year old boy can't handle it, it's no good." If a ten year old boy can handle it, then the experienced operator will thank you for making his work easier.—B.W.

Paint Research Associates

New developments in the paint manufacturing field and the work of research laboratories were reviewed June 22 at the semi-annual meeting of the board of directors, Paint Research Associates, Inc., held at 1724 W. 75th Place in Chicago, Ill.

Why does an **ARIDIFIER**



REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?

STUDY EXPLODED VIEW FOR ANSWER

Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing, and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

CAPACITY RANGE: AS LOW AS 7 CFM TO 17,000 CFM.

Made By The Manufacturers of Logan Lathes and Shapers.

Logan ENGINEERING CO.

4915 W. LAWRENCE AVE., CHICAGO 30, ILL.

Industrial FINISHING Editorial

Where and How to Practice Economy

★ The past 18 months have seen a rapid transition from a seller's market to a buyer's market in most industries. The wood furniture industry is no exception; the buyer's or customer's market is here to stay, barring another war in the near future. This condition, coming as sudden as it did, caught many furniture manufacturers in a squeeze.

Furniture makers are confronted on the one hand by high wages and expensive raw materials, but on the other hand a definite downward trend in prices for their finished products. For this reason I see only one way for the manufacturers of wood furniture if they are to continue operation, and that is the road of economy. There is no other alternative.

Since there are no indications that either wages or raw material prices are going to be much lower in the immediate future, manufacturers must practice economy or go out of business. This is especially true of the finishing departments, where millions of dollars are spent annually for finishing materials. If the average finishing foreman would keep a careful record of wastage of materials and labor in his department for three months, I feel sure that he would be surprised at the cost of these two items in his department.

Every foreman finisher should always be on the alert to eliminate, as far as possible, any wastage of finishing materials. Something that will help toward this end is to check all air pressures and fluid pressures at the various spray stations. Air pressure that is too high will cause a lot of materials to be carried out through the spray exhaust system. On the other hand, air pressure that is too low will not give proper atomization of the materials and, as a result, there will be a lot of rejects. The foreman should also be sure that the proper needles and tips are being used in his spray guns.

Another way to practice economy is for the foreman finisher to be sure that he is using the right materials, both in price and quality, for the price range of furniture he is finishing.

It is all right to use lower grade materials on cheap furniture, but it is false economy to use poor quality materials on good furniture; this will detract from the appearance of the finished product, thus creating sales resistance and often causing the manufacturer to have to lower the price of the furniture to a point where he is making no money.

Then the foreman finisher must practice economy in the use of labor in his department. This can only be accomplished by the foreman carefully studying every operation. In so doing he will be able to determine whether or not the operations are being performed in the best way, which is always the most economical way. For instance, the foreman may be able to

---

★ *Guest Editorial... Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials, paying for those published.*

change one operation that will save his employer several thousand dollars a year.

Since management, today more than ever, must operate economically and since management always looks to the various foremen to help operate its factories profitably, it is up to every finisher to do his part toward attaining this end by practicing economy in his department.—H. W. CHESTER.

Standardizing Whites

★ The world's paint makers have certainly done a wonderful job on white paints and enamels—and the world's paint users have certainly reciprocated by using a lot of them. Gloss, coverage, permanence, and ease of handling leave little to complain about.

The only objection I can think of is that there are just too many whites. It is a little disappointing for the proud owner of a new gleaming white kitchen — with steel sinks and cabinets, stove, refrigerator, washing machine, etc.—to discover that the whites in his kitchen vary from cream to blue and/or gray white tints, not to mention variations in gloss. Here would seem to be a fertile field for standardization.—C.A.G.

An Added Operation Really Saved Time

★ To many manufacturers the mere suggestion of adding a new operation to those already established brings visions of extra expense, extra manpower, and extra time to get the product out. However, this is not always the case. In fact it may be just the opposite.

I have in mind the case of a certain manufacturer who installed a large cleaning and Bonderizing setup, using

The Sign of CLINCO Highest Quality

LACQUERS - - -

- - - ENAMELS

Let us help you with your finishing problems

THE CLINTON COMPANY
1210 Elston Ave., Chicago 22, Illinois

"Wood Graining"

ADDS

Eye Appeal

American Graining Plates are photographic reproductions of fine woods.

AMERICAN RICHWOOD PRODUCTS CO.

Graining Plate Division

104 E. Mason St., Milwaukee 2, Wis.

Snyder Brothers Company

TOCCOA, GEORGIA

P. O. Box 548 Telephone 570

Manufacturers of High Quality Industrial Lacquers

SERVING THE SOUTHEAST

COMPLETE TECHNICAL SERVICE AT YOUR DISPOSAL

NEW
SILICONE-BASE HEAT RESISTANT FINISH

MICO Aluminum hailed by leading manufacturers as the most heat-stable finish ever to be developed for every day commercial use.

NOW—a heat resistant finish that protects—*virtually doubles the life*—of vital parts in hundreds of products like mufflers, engines, boilers, ovens, oil and gas burners. MICO Aluminum has passed 25 different tests for thermal, chemical, and physical stability, and has thoroughly proved itself on the production line. *Investigate* MICO. *Get the facts!* Write today for your copy of the new MICO folder . . .

MICO . . . THE SILICONE BASE FINISH THAT WITHSTANDS 1000° (F.)—WITHOUT SURFACE BREAKDOWN.

Manufactured Exclusively by

MIDLAND INDUSTRIAL FINISHES COMPANY

Dept. IF-8 Waukegan, Illinois

ENAMELS • SYNTHETICS • LACQUERS • VARNISHES

the standard tank process, namely: 1) Hot alkali soak; 2) Hot water rinse; 3) Bonderite dip; 4) Cold water rinse, and 5) Hot chromic acid dip. The work, consisting of all manner and sizes of sheet metal parts, was carried from tank to tank in large baskets which were handled by an electric hoist suspended from an overhead monorail. The system worked fine except that, even with a 20-minute soak in the alkali cleaner, some of the parts were not perfectly clean, especially around seams and crevices that retained oil.

When a pre-cleaner was suggested, the foreman protested that too much time was already being consumed, that cleaning was slowing down the entire process, and that he would prefer to add another alkali tank. Nevertheless, it was finally decided to try the pre-cleaner first and another tank was obtained. This added tank was charged with a petroleum spirits product to which an emulsifying agent was added to make it water soluble. Between this tank and the hot alkali tank, a sheet metal tank was set up. Most of the front of the latter tank was cut out, and a drain was located in the bottom.

As the system now works, baskets of parts are lowered into the pre-cleaner and immediately withdrawn; they are allowed to drain for a minute or two and then they are lowered into the metal shield (the tank with front cut out). Here the operator sprays around them with a car washing gun which utilizes both water and compressed air. This entire operation does not require more than five minutes. The impinging action of the water and compressed air removes the clinging dirt completely, even from almost inaccessible areas. Furthermore, a dip-soak of only five minutes is now required in the alkali cleaner to produce a spotless job, a saving of half the time formerly consumed.

The advantages just mentioned are

Twenty Million Gallon Reasons

Why we lead the field...

IN

LACQUER THINNERS

BARKER

BARKER CHEMICAL COMPANY

One of America's Largest Manufacturers of Lacquer Thinners

2258 SOUTH UNION AVE. • CHICAGO, ILLINOIS

not the only benefits derived. Due to the removal of a large part of the shop dirt and oil, the useful life of the alkali cleaner is prolonged indefinitely and it is seldom necessary to replace or even skim it. Furthermore, since the treated parts are made perfectly clean, the resultant Bonderizing job is also perfect.—GEORGE A. CONRAD.

Smooth Operation of Factory Personnel

★ In a trade journal ad I happened to notice these words: "to assure constant alignment of moving parts." No industrial finisher needs to be told the importance of this phase of maintenance insofar as his equipment is concerned; but he may have overlooked the equal urgency of keeping plant personnel "in line" to bring about smooth operation and reasonable efficiency.

Except in plants large enough to have a regular personnel department, replacing workers when necessary and handling actual labor problems may be about the extent of the "lining up" process. A little more attention to this matter would increase the day-by-day efficiency of the finishing department, and would reduce both replacements for lost workers and more serious labor-management misunderstandings.

As employees become older they have different personal problems to solve; they may change their attitudes toward their jobs; and they may become either better or worse workmen. Once they may have been in perfect alignment with the finishing plant setup, but there's no guarantee that they will remain that way indefinitely. Smooth operation requires constant checking on this point.

Replacements must necessarily be hired mainly on the basis of ability to handle certain jobs in the plant. After a short training period which gives time for adjustment to local conditions, the new worker should be judged not only on his progress with his work but also on his success in getting along with other men. If the foreman has suggestions for improvement along this line, it is best to approach the subject early. Then the minor problems of alignment may be taken in the new employee's stride, and as part of his breaking-in period. Later it will not be so easy to change deep-rooted habits, lack of cooperation, and sources of irritation.

After someone has handled the same work for a long time, the foreman begins to take him and his efficiency for granted. Actually there will be constant changes which tend toward throwing him out of alignment with other workers and with plant policy. To recognize these signs and adjust them promptly is one mark of an alert foreman.

A combination of numerous inefficiencies in the finishing department may lead to considerable trouble, particularly in today's competitive market. For smooth operation and high production, remember the frequent checking of alignment is necessary for personnel quite as much as for equipment.—G.M.D.

New Trends in Wood Finishing

★ Due to several months of slow business in the wood furniture industry, the July Furniture Markets saw a lot of new designs and finishes displayed by most of the manufacturers. I don't believe the retail furniture buyers have ever seen so much beautiful modern furniture as was shown at the July markets.

Most of the finishes were in light tones. Walnuts ranged from light, al-

Limited Floor Space?
SOLVE *Your* PAINT-BAKE PROBLEM
this easy way

KOOL VENT Metal Awning Corporation of Michigan has been using Jensen Infra-Red successfully for many years to paint-bake aluminum awning parts.

Until recently the job was done in a flat, horizontal-type Jensen infra-red oven, with two paint lines, two spray booths, two conveyors. Then floor space became a problem.

Here is how Jensen solved it. They designed and built a new upright-type oven *(illustrated here)* which uses LESS THAN ½ THE FLOOR SPACE —*yet gives greater production.*

Now Kool Vent uses only *one* paint line, *one* spray booth, *one* conveyor — but — thanks to Jensen ingenuity — MORE PIECES ARE PRODUCED EVERY HOUR!

Jensen "dual heat" Infra-Red Ovens are designed to industry's specific needs. Write us about YOUR problem today!

Jensen Specialties Inc.

America's Foremost Designers and Builders of Infra-Red Ovens • Conveyors • Paint Dip Tanks

9331 FREELAND • DETROIT 28, MICHIGAN, U. S. A.

SERVICE BRANCHES In:

Buffalo, N. Y. Chicago Cincinnati Cleveland Columbus, Ohio Detroit Grand Rapids, Mich. Indianapolis New York City Philadelphia Pittsburgh Rochester, N. Y. Toledo, Ohio Waterbury, Conn.

In Finishing Production . . . the Future Belongs To Men Who *Plan* For It!

NATIONAL PAINT DICTIONARY

New Edition Ready

$7.50

The long-awaited revision of the National Paint Dictionary is now ready for distribution. This is the third edition by its author, Jeffrey R. Stewart. The size of the book has been reduced to 6x9-in. to meet popular demand, and to facilitate its use in a standard library shelf. The number of pages has been increased from 216 to 704, and a type face has been used which provides maximum legibility.

The terms included in this dictionary may be divided into six categories (though the largest proportion falls into the first two groups) as follows: 1) industrial raw materials used in the production of paints and allied products; 2) trade names of raw materials and certain finished products; 3) terms describing processes, methods, systems, etc.; 4) terms denoting scientific instruments used primarily for evaluation purposes; 5) terms denoting colors, optical effects, textures, etc., and 6) miscellaneous terms which give general information to the reader, jargon expressions peculiar to the industry, etc.

Copies of this new reference book are priced at $7.50 each, cash with order.

★

INDUSTRIAL FINISHING

1142 N. Meridian St., Indianapolis 4, Ind.

most natural shades, to the light honey tones. Gray walnuts, of which many were in evidence, ranged in color from medium grays to light bleached and pigmented color grays.

A lot of blond furniture was shown finished in various shades from light blonds to gray and limed colors.

Mahogany period furniture was finished in some of the most beautiful colors ever shown. These colors ranged from light orange-brown to the deep yellow browns and reds. Some bleached mahogany suites were exhibited in both modern and period designs.

One thing I noticed that particularly stood out on most furniture shown was the high luster finishes. This indicated a definite trend toward highly polished furniture. It was in evidence even on 18th Century furniture; many of these suites were polished to a high luster. Gone are the days of the dull cloudy finish that detracted from the depth of color; instead the furniture buyer of today wants a high luster which gives depth to the finish.

Of course, on certain traditional designs today there is still a demand for the dull satin effect finishes, but most of the furniture, including even the highest grades, is hand polished and buffed to a high luster.

The lighter finishes also call for clear top coating materials, so here again the trend is away from amber-colored top coatings (such as is found in a lot of varnishes) and toward clear materials such as water white lacquers and synthetics.

A trend toward better and more durable finishes, such as are found in urea formulated materials and other heat-cured synthetics, is in evidence. One manufacturer has recently put on the market an air-dry-type urea that works successfully. Since most of the new trends are toward something better, I think we will see more beautiful and more durable wood finishes than ever before. — H. W

Against or For What's New

Age plus experience can be a wonderful asset in the operation of any finishing room. On the other hand this combination can become a serious liability if the individuals concerned are on the ultra-conservative side. Experience can be measured by years. Age may not. How old a man is can only be measured by the degree of his receptiveness to new ideas. Some men are old at 25 while others are young at 65.

Naturally, all of the new methods, materials and equipment are not adaptable to every finishing room or to every product. But some of them are not likely to be adaptable, but in all probability they will, if installed, lower costs and improve the finish.

By "new methods, materials and equipment," we do not necessarily mean something that has just been discovered. It may be something that has been available for several years, yet it is new to the particular plant involved.

First in importance must be the desire to improve the finishing system; secondly, to be well informed on what is going on in the finishing industry; last but by no means least, to give a new method, material or peice of equipment a fair and unbiased trial, and if it proves to be satisfactory, to be big enough to admit its merits.

Training Course to Explain Industrial Instruments

A comprehensive 13-week course and two 5-week courses have been scheduled for the period from August 15 to December 2 by the Brown Training School of Industrial Instrumentation, Brown Instruments division of Minneapolis-Honeywell, Philadelphia, Pa.

As in the past the courses are designed primarily for customers, in order that they may obtain maximum benefit from their process control equipment.

FOR

FINISHING AND RUBBING ROOM SUPPLIES AND EQUIPMENT

Immediate Delivery

We specialize in SUNDSTRAND Sanding and Rubbing Machines

Wilkinson Equipment & Supply Co.
6958 S. Wentworth, Chicago 21, Illinois

FOR ALL FINE FINISHES

TAC-ALL TACK RAGS

Packed bulk or individually. Prices and samples on request.

GEO. W. RENNER CO.
2309 Lillie St., Ft. Wayne 5, Ind.

CONSTANT STUDY AND RESEARCH . . .

one of many reasons for the INDUSTRIAL FINISHING leadership enjoyed by the

NATIONAL
LACQUER & PAINT CO., INC.

7415 S. Green St. Chicago 21, Ill.

THE LANY CO.
INDUSTRIAL OVENS
760 PROSPECT AVENUE • CLEVELAND, OHIO
CONSULT US REGARDING: HEAT TREATING OVENS • CORE OVENS
PAINT OVENS • RUBBER CURING OVENS • AIR HEATERS, ETC.

SOLVENTS RECOVERED BY
THE LOFGREN PROCESS
We RECOVER YOUR
SOLVENTS & THINNERS
From - Sludge - Waste - Wash -
Spoiled Lacquers, etc.
Each customer's shipment, whether one drum or a carload, receives PROPER AND SEPARATE TREATMENT. Write to:
SOLVENTS RECOVERY SERVICE, INC., 101 Central Ave., Westfield, N.J.
or—HAMMOND
SOLVENTS RECOVERY SERVICE
241 Brunswick St., Hammond, Ind.

IDEAL TACK RAGS
FOR A PERFECT FINISH
Immediate Delivery
IDEAL CHEMICAL COMPANY
1689 Lee Road Cleveland 18, Ohio

Selecting an Air Compressor

★ The air compressor used to supply air to spray-guns represents a major investment and should be chosen with great care. If it is bought from a manufacturer of spraying equipment you can reasonably expect that it was designed for supplying air to spray guns. This is generally the safest buy and it enables the purchaser to benefit from the manufacturer's recommendations as to size and type of compressor to use.

Many buyers seem to think that "an air-compressor is an air-compressor;" that there isn't any essential difference in them. They do not realize that the market (especially second-hand) is cluttered with plenty of poor quality and poorly designed machines. Moreover, there are compressors which, though excellent machines, are not really suited to supplying air for spraying; in fact some compressors are deliberately designed to pump a small amount of oil to insure thorough lubrication of the compressor and to lubricate pneumatic tools. This oil can be quite ruinous to finishes—and once the air-lines become loaded with it, it is almost impossible to remove.

If, by accident, one should acquire an oil-pumping air-compressor, there is only one solution. A heavy-duty oil-and-water separator of sufficient size must be installed on the output header. Possibly more separators will be required at stragetic points on the air-lines. Do not expect the separators (filters) at the spray-booths to handle such a heavy burden.—A. C. GEORGE.

Tru-Steel Shot for Blast Cleaning

American Wheelabrator & Equipment Corp., Mishawaka, Ind., announces the development of Tru-Steel shot for use in all types of blast cleaning equipment. This new material is a genuine truc steel that has received a full heat treatment and exhibits that combination of hardness and toughness generally associated with steel.

Protection of Workers' Health and Safety

The New York State Labor Department's Division of Industrial Hygiene is contributing a really constructive service in protecting the health and safety of industrial workers. Management is deeply interested in the health of the employee, first for humanitarian reasons and secondly for economic reasons. Dr. Leonard Greenburg, director of the division, said:

"The industrial environment exposes employees to an ever-increasing number and variety of occupational hazards, which grow more complex as this country evolves new and dramatic technological developments."

In some plants excessive dust, fumes and vapors are present in the air. Other dangers to health are radiation, compressed air, high temperatures or humidity, excessive noise, continuous virbation and improper illumination.

The Division has laboratories staffed by capable technicians and equipped with adequate instruments and devices for testing gases, liquids and solids. During 1948 the Division received 3592 requests for investigations of health hazards. After making a study of a complaint on the scene of employment and in the laboratories, the technicians recommended ways to eliminate or improve the health hazard.

This seems to be such an excellent idea that other states or even highly industrialized cities might well adopt a similar plan.

New Chemical Plant

The Columbia Chemical Division of Pittsburgh Plate Glass Co., has started operation of a chlorinated benzene producing plant at Natrium, W. Va. The new plant is near a large chlorine and caustic soda plant, both of which have been in operation for some time. The new unit will produce basic materials used in organic finishes.

Safeguard your spray booths

• Layers of inflammable paint come off more quickly if you have applied Wyandotte Spray Booth Coating first. Only a thin coating makes cleaning easier, faster, more economical.

Your Wyandotte Representative will be glad to give you complete details on Wyandotte Spray Booth Coating. Why not call him today?

WYANDOTTE CHEMICALS CORPORATION
Wyandotte, Mich. • Service Representatives in 88 Cities

Wyandotte
REG. U. S. PAT. OFF.

RESTORE PAINT IN 2 MINUTES

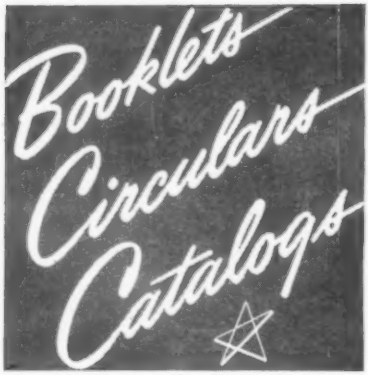
PER GALLON WITH
MIRACLE BLUE - BOY
5 GALLON
PAINT REJUVENATOR

Paints, lacquers and enamel products can be restored to their original consistency without opening the can. Units available to handle from ⅛ pint to 50 gallon drums. Immediate delivery.

Originators of paint rejuvenating equipment---sixteen years—thousands of satisfied users.

Write for folder & prices

MIRACLE PAINT REJUVENATOR CO.
127 E. 9th Street St. Paul 1, Minn.



Masking Tape Booklet Free

A 12-page illustrated booklet (Issue No. 11) by Industrial Tape Corp., New Brunswick, N. J., contains new information about masking tape and how to use it.

New Booklet by O'Neil Duro

O'Neil Duro, Milwaukee 1, Wisc., manufacturer of enamels and lacquers, has issued a new 16-page booklet entitled, "O'Neil Duro — creating beauty through better finishes for industry." The booklet, of 10 x 10-in. size with attractive 4-color cover, gives a brief history of the company and describes the enamels and lacquers the firm manufactures and their uses. Copies of the illustrated booklet are available and will be mailed upon request.

Trumbull Releases Circular on New TT Manual Starters

A new circular has just been released by The Trumbull Electric Mfg. Co., Plainville, Conn., on the new TT Manual Starter which provides overload protection for small motors up to 1-hp.

The main feature of the new TT Starter is the heater. This thermostatic tumbler matches the current ratings of the motor with which it is used, and is intended to interrupt the circuit and prevent damage to the motor. A 4-page circular contains dimensional data and suggested specifications for contractors and users.

"What You Start, We Finish"

The above words are the title of a 12-page booklet published by the Japan Co., Industrial Finishers, 5103 Lakeside Ave., Cleveland 14, Ohio. Illustrations in the booklet show some of the variety of products that are finished by the company, and many interesting views inside and outside the plant.

Quoting a paragraph from the booklet: "Regardless of material, finish, color, speed in handling or other demands of product and client—Japan Company technicians are specialists, capable of satisfying every need. Proof is the many prominent manufacturers who entrust all details in the finishing of their products to our hands."

Supervisory Training: Case Studies

In a competitive economy, where all resources, material and human, are available to all competitors, the proper training of supervisors can be a controlling factor in the progress of a company.

This fact was stressed again and again by executives who cooperated with the Policyholders Service Bureau of the Metropolitan Life Insurance Co. in gathering case material on supervisory training. This material has just been published in the report, "Supervisory Training: Case Studies," which was issued as a part of the Metropolitan's continuing program of services to Group-insured companies.

Executives who would like to examine this report may obtain a copy by writing to the Bureau on their business letterhead. Address: Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Avenue, New York 10, N.Y.

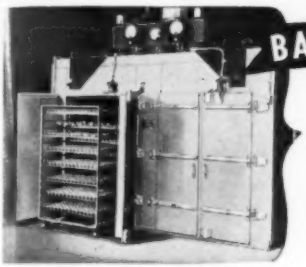
Free Book About Ovens for Baking Finishes

Seven different types of modern ovens for baking finishes on metal surfaces are described and illustrated in the "New Ferro Service Book for the Metal Finishing Industry." The types of products that are most suited to processing in each type of oven are listed, along with other up-to-the-minute engineering data.

Whether you are applying coatings by spraying, dipping, flow coating, or roller coating, this book suggests the type of oven to use effectively in connection with the work. It contains 36 pages and is attractively illustrated. Send for a free copy by writing to Ferro Enamel Corporation, Engineering Division, 4150 East 56th St., Cleveland 5, Ohio.

Lectrodryer Bulletin About Drying Up Wetness

The second in a series of illustrated bulletins on the fundamental physics of water vapor, as related to solid adsorption dehumidification, has been publish-



BAKING and DRYING OVENS

For Processing • Varnish Baking • Paint and Lacquer Drying • Lithographing and Decorating. Batch or Conveyor Types for any fuel. Write for Bulletin 3.

YOUNG BROTHERS COMPANY
2011 Park Ave. Detroit 26, Mich.
Established 1896

by Pittsburgh Lectrodryer Corp., Dept. E.G., P.O. Box 1766, Pittsburgh 30, Pa.

Entitled "The World Is Sopping Wet," the new bulletin is the second in a series written by Elmer R. Queer, professor of engineering research, and E. R. McLaughlin, associate professor of engineering research, State College, Pa. Recognized as authorities in their field, both Professors Queer and McLaughlin are consultants to Pittsburgh Lectrodryer Corp.

In conclusion the bulletin explains the harmful effect water vapor in the atmosphere has on production processes and materials in storage, and how Lectrodryer equipment is solving a wide range of dehumidification problems encountered in industry, research and manufacturing.

Infra-Red Dual Heat Ovens

How Radiant Heat plus Convection Heat equals Dual Heat, is one of the several points of interest explained and illustrated in a new 4-page, 2-color oven and conveyor bulletin just released by Jensen Specialties, Inc., 9331 Freeland, Detroit 28, Mich. The bulletin shows several views of production lines wherein conveyors are moving various kinds of parts and products through infra-red ovens to bake the enamel or paint coatings. Both chain and apron-type conveyors are shown. Send for a free copy.

Wilkinson Distributes Johnson's Rubbing Lubrication

The Wilkinson Equipment & Supply Co., 6958 S. Wentworth Ave., Chicago 21, Ill., has been appointed general distributor in the states of Illinois and Indiana, for Johnson's Rubbing Lubrication and other products manufactured by S. C. Johnson & Sons, Inc., Racine, Wisc. These materials are used in the finishing and refinishing of furniture.

Wilkinson men are being trained in the various materials and applications so they can help Wilkinson customers to get better finishes at lower costs.

Install NALCO *Infra-Red Lamps in Your Drying Units*

Time tested—job tried. Nalco Infra-red lamps have proven highly efficient and long-lasting for all types of drying, baking or heating installations . . self reflecting or clear glass type.

Send for "Drying Problems Made Easy"
North American Elec. Lamp Co.
1030 Tyler St. St. Louis 6, Mo.

PINHOLING PROBLEMS?
Use Liquafill Sizing.
For Information, Write
THE LIQUAFILL MFG. CO.
823 Richard St. Dayton 3, Ohio

Industry Adopts New Ideas In Building

About five billion dollars have been spent on new plant construction since the war. Most of the buildings are of good sound industrial construction with a few radical streamlined jobs. From outward appearance the change has not been too great, but the inside of the building—the working space, wash rooms, cafeteria and in some cases a lounge room—all reflect the

THE MISKELLA *Infra-Red* COMPANY
Designers Manufacturers of
INFRA-RED OVENS · APPLIANCES · SECTIONAL UNITS · MACHINES AND CONVEYORS
TELEPHONE ... CABLE ADDRESS: Infra-Red
SALES OFFICES: ATLANTA, BUFFALO, CHICAGO, CLEVELAND, DETROIT, HOUSTON, INDIANAPOLIS, LOS ANGELES, MILWAUKEE, NEW YORK, SAN FRANCISCO
MAIN OFFICE AND LABORATORY ... CLEVELAND 4, OHIO
The Miskella Standardized Insulated line now includes: Vibra-Veyor, Duplex-Veyor, Burn-in-Kit, Bench-Kit, Test-Kit, Barrel-Kit, "Tub" Oven, Pull-Thru Oven, Elliptical Oven, Rack-Tub, Hy-Heat Units, Super-Heat Units, Low-Heat Units, Porta-Veyor, Chain-Veyor, Belt-Veyor, Coil-Veyor, Heat-O-Lier and Attic Oven.

Safety and Comfort for your sprayers
PULMOSAN R-151 Respirator
Prevents inhalation of fumes and particles of paint, enamel, lacquer. Easy-breathing, fits any face.

Pulmosan Safety Equipment Corp.
644 Pacific St., Brooklyn 17, N. Y.

PAINT STRIPPING
We remove
Baked, Air-Dried, Plastic and all other finishes from all base metals.
For quick, efficient and low cost service write or call
ALCHEM METAL PROCESS CORP.
614 W. 58th St. New York 19
CIrcle 7-0238

influence of labor on the current industrial practice.

The high cost of labor has influenced management to streamline production processes, to provide every known facility for efficient operation, to shorten distance and eliminate handling through the use of conveyors.

Many improvements have been incorporated in these new plants designed to aid in the health and comfort of the worker. Some include filtered air, air conditioning, recreation rooms, sanitary wash rooms equipped with showers and attractive cafeterias. In finishing rooms, adequate exhaust systems, filtered air and water curtain spray booths have contributed much to the comfort and efficiency of spray operators. Modern electric wiring and relocatable partitions have added flexibility to the modern plant to absorb the changes in either the product or production methods.

Regardless of what influence caused the revolution in industrial planning, the improvements are good. Both management and labor will reap the benefits.

Landstrom, Sales Manager for Sunstrand Sanders

B. F. Olson, President and General Manager of the Sundstrand Machine Tool Co., Rockford, Ill., announces the appointment of Edgar O. Landstrom as Sales Manager of the Pneumatic Division of the company. In his new capacity, Mr. Landstrom will be in charge of the sale and distribution of the company's portable pneumatic sanding and rubbing machines.

DuPont Ind. Sales Manager at San Francisco

The Finishes Division of the DuPont Co. announces the appointment of Theodore J. Mitchell as industrial sales manager for the San Francisco region.

Mr. Mitchell has been with the DuPont Co. since 1926, and for many years has specialized in finishes for the petroleum, aviation, marine, railway, and steel fabrication industries. Before going to San Francisco he was manager of special industrial sales for the Chicago region. He originally is from Little Rock, Ark., and joined the DuPont Co. at Tulsa, Okla.